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PAPER TRADE JOURNAL

With Which Is Combined

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Paper Awards For Government Are Announced

Joint Congressional Committee on Printing Meets Monday and Lets Bids for Furnishing Large Variety of Paper For Use of the Public Printer for the Term of One Year Beginning March 1, 1931—Some Quantities Are Increased While Others Are Decreased—The Successful Bidders

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 2, 1931.—The awards were made for the supplies of paper for the Government Printing Office for the year ended March 1, 1931. All bids were rejected on Lot No. 15, Machine Finish Book Paper, for the reason that the Government Printing Office finds that it has a sufficient supply on hand.

On Lot No. 16, Plant-fiber Machine-Finish Book Paper; all bids were rejected.

In the case of Lots 224 and 225, the award was not made to the lowest bidder, as the paper offered was not up to the required standard of quality.

Increases in quantity called for and awarded, as compared with the preceding year include the following: In Lot 12 Machine Finished Book Paper, from 500,000 to 600,000; In colored Machine-Finished Book, Lot 14, from 50,000 to 60,000; Of Supercalendered book paper, Lot 26, from 90,000 to 120,000; on the same class of paper Lot 28, from 1,000,000 to 1,100,000 pounds; in 50 per cent Rag Double-coated book, Lot 37, from 50,000 to 150,000; in 30 per cent Rag Mimeograph, Lot 47 from 1,200,000 to 1,300,000; in U. S. M. O. Writing Lot 52, from 20,000 to 25,000; in Colored safety writing, Lot 53, from 5,000 to 10,000. In colored sulphite writing, Lot 61, from 550,000 to 600,000 pounds; in 75 per cent Rag Lithograph-finish map paper, Lot 66, from 150,000 to 230,000 pounds; Lot 69, 100 per cent Rag White Chart from 200,000 to 250,000; in 50 per cent Rag White Bond paper, Lot 122, from 100,000 to 200,000 pounds; in 50 per cent Rag colored ledger paper, Lot 164, from 70,000 to 110,000; in Lot 184, White, sulphite index, from 60,000 to 80,000 pounds; in Lot 204, 25 per cent Rag colored smooth machine-finish cover paper from 120,000 to 140,000; in Lot 224, Calendered Manila tag board, from 500,000 to 550,000.

Among the items showing decreased requirements were the following: Lot 11, Machine finished book paper, from 1,200,000 to 1,000,000 pounds; in Lot 33, 50 per cent Rag Supercalendered from 50,000 to 40,000; in Lot 35, Single coated book paper, from 500,000 to 350,000 pounds; in Lot 64, Lithograph-finish map paper, from 30,000 to 20,000 pounds; in Lot 65, 50 per cent Rag Lithograph-finish map paper, from 200,000 to 150,000; in Lot 74, 50 per cent Rag White manifold paper, from 450,000 to 400,000 pounds; in Lot 102, White sulphite Bond paper, from 1,000,000 to 600,000 pounds; and in Lot 104, Colored sulphite Bond Paper, from 100,000 to 50,000 pounds; in Lot 111, 30 per cent Rag White Bond Paper, and in Lot 112, the decrease in each instance was from 1,000,000 to 800,000 pounds, while in Lot 114, 30 per cent Rag Colored Bond there was a reduction from 155,000 to 60,000 pounds; in Lot 115, from 350,000 to 250,000; in Lot 116, from 300,000 to 230,000; in Lot 121, 50 per cent Rag White Bond there is reduction from 1,000,000 to 800,000 pounds; in Lot 225, Colored calendered tag board from 200,000 to 150,000; and in U. S. Postal Card Bristol Board, Lot 311, from 11,000,000 to 10,000,000.

Only one new item was added as compared with preceding year, namely, 50,000 of High finish Red Sulphite Paper.

Among the new bidders were Bartgis Brothers Company, Ilchester, Md., Bermingham & Prosser, Kalamazoo, Mich.; Link Paper Company, New York City; National Pulp and Paper Company, Inc., New York city; and the Rogers Printing Company of Baltimore, Md.

The Awards

The awards are as follows:

STANDARD NEWS PRINT

No. 1—3,000,000 pounds Newsprint Paper; basis, 24x36 inches, 64 pounds. Rolls, 24, 36, and 48 inches wide (3-inch fiber cores, with metal ends): National Pulp and Paper Company, (Inc.). 2.975 cents. New York City, N. Y.

No. 3—800,000 pounds Machine-Finish Book Paper; basis, 25x38 inches, 70 pounds, flat, cut 24x38, 28x38, and 31¼x45½ inches: P. H. Glatfelter Company, Spring Grove, Pa. 4.64 cents.

No. 4—1,000,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 70 pounds. Flat, cut 24x38, and 38x48 inches: P. H. Glatfelter Company. 4.64 cents.

No. 5—1,000,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 70 pounds. Flat, cut 24x38, and 38x48 inches: P. H. Glatfelter Company, 4.58 cents.

No. 6—800,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 70 pounds. Rolls, 18, 21 and 23 Inches Wide, (3-inch Iron cores): The Barton, Duer & Koch Paper Company, Washington, D. C., 4.235 cents.

No. 7—1,500,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 70 pounds. Rolls, 19 and 38 inches wide (3-inch Iron cores): The Barton, Duer & Koch Paper Company, 4.235 cents.

No. 8—1,500,000 pounds, Machine-Finish Book Paper; basis 25x38 inches, 70 pounds. Rolls, 19 and 38 inches wide (3-inch Iron cores): The Barton, Duer & Koch Paper Company, 4.235 cents.

No. 9—1,000,000 pounds Machine-Finish Book Paper; basis

25x38 inches, 70 pounds. Rolls, 24, 36 and 48 inches wide (3-inch Iron cores): The Barton, Duer & Koch Paper Company, 4.235 cents.

No. 10—300,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 80 pounds. Rolls, 32 inches wide (3-inch Iron cores): The Barton, Duer & Koch Paper Company, 4.185 cents.

No. 11—1,000,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 80 pounds. Flat, cut 24x38, 33¾x64, and 38x48 inches: Reese & Reese, Inc., Baltimore, Md., 4.34 cents.

No. 12—600,000 pounds, Machine-Finish Book Paper; basis, 25 x38 inches, 100 pounds. Flat, cut 22½x32¼, 24x38, 24¼x36¼, 32x42, 38x48, and 41x52 inches: Reese & Reese, Inc., 4.34 cents.

No. 13—30,000 pounds, Machine-Finish Book Paper; basis, 25x38 inches, 120 and 140 pounds. Flat, cut 24x30 (grain as ordered), 29x41, and 38x48 inches. Minimum Order 7,500 pounds: Reese & Reese, Inc., 4.51 cents.

No. 14—60,000 pounds, Colored Machine-Finish Book Paper, blue and salmon; basis, 25x38 inches, 70 and 100 pounds. Flat, cut 25x38 and 38x48 inches. Minimum order one color, 5,000 pounds: Reese & Reese, Inc., 6.36 cents.

Machine-Finish Book

No. 15—100,000 pounds, Machine-Finish Book Paper for use on Monotype machines; basis, 25x38 inches, 100 pounds. Rolls, 27 inches wide (3-inch Iron cores). All bids rejected.

Plant-Fiber Machine-Finish Book

No. 16—40,000 pounds, Plant-Fiber Machine-Finish Book Paper, basis, 25x38 inches, 80 pounds. Rolls 19, 38, and 48 inches wide (3-inch Iron cores). All bids rejected.

Machine Finish Book End Paper

No. 17—80,000 pounds Machine-Finish Book End Paper for waste leaves. Flat, 25x38 inches, 160 pounds, the grain to run the 38-inch way: Reese & Reese, Inc., 4.88 cents.

Antique Book

No. 18—50,000 pounds Antique Book Paper; basis, 25x38 inches, 100 pounds. Flat, cut 25x38 and 38x50 inches: Reese & Reese, Inc., 4.62 cents.

Light Weight Machine-Finish Book

No. 19—100,000 pounds Light Weight Machine-Finish Book Paper; basis, 25x38 inches, 60 pounds. Flat, cut 32x48 and 38x48 inches: Bryant Paper Co., Kalamazoo, Mich., 5.99 cents.

No. 20—125,000 pounds 50 per cent Rag Light Weight High Machine-Finish Book Paper; basis, 25x38 inches, 60 pounds. Flat, cut 32x48 inches and 38x48 inches: R. P. Andrews Paper Company, Washington, D. C., 9.40 cents.

No. 21—150,000 pounds Machine-Finish Book Paper; basis, 25x38 inches, 80 pounds. Flat, cut 32x48 inches: Hawthorne Paper Company, Kalamazoo, Mich., 7.84 cents.

No. 22—450,000 pounds 50 per cent Rag Machine-Finish Book Paper, basis, 25x38 inches, 80 pounds. Flat, cut 28x48 inches: Reese & Reese, Inc., 7.81 cents.

No. 23—100,000 pounds 50 per cent Rag Machine-Finish Book Paper, basis, 25x38 inches, 80 and 90 pounds. Flat, cut any size, minimum width 24 inches, maximum width 42 inches: Hawthorne Paper Company, 7.84 cents.

100 Per Cent Rag Machine-Finish Book

No. 24—40,000 pounds 100 per cent Rag Machine-Finish Book Paper; basis, 25x38 inches, 90 pounds. Flat, cut 24x38 inches; the grain to run lengthwise of the sheet. No. 1, new white shirt cuttings blended with No. 1 unbleached glove cuttings: The Barton, Duer & Koch Paper Company, 22.00 cents.

No. 25—40,000 pounds 100 per cent Rag Machine-Finish Book Paper; basis, 25x38 inches, 140 pounds. Flat, cut 24x38 inches, the grain to run lengthwise of the sheet. No. 1 New white shirt cuttings blended with No. 1 unbleached glove cuttings: The Barton, Duer & Koch Paper Company, 22.00 cents.

No. 26—120,000 pounds Supercalendered Book Paper; basis, 25 x38 inches, 90 pounds. Flat, cut 32x48 inches. Minimum order 15,000 pounds: R. P. Andrews Paper Company, Washington, D. C., 4.61 cents.

No. 27—550,000 pounds Supercalendered Book Paper; basis, 25x 38 inches, 90 pounds. Flat, cut 31¼x45½ inches: R. P. Andrews Paper Company, 4.61 cents.

No. 28—1,100,000 pounds Supercalendered Book Paper; basis, 25x38 inches, 90 pounds. Flat, cut 24x38 inches, and 38x48 inches: R. P. Andrews Paper Company, 4.61 cents.

No. 29—900,000 pounds Supercalendered Book Paper; basis, 25x 38 inches, 90 pounds. Rolls, 38 inches wide (3-inch iron cores): R. P. Andrews Paper Company, 4.29 cents.

No. 30—900,000 pounds Supercalendered Book Paper; basis, 25x 38 inches, 90 pounds. Rolls, 38 inches wide (3-inch iron cores): R. P. Andrews Paper Company, 4.29 cents.

No. 31—40,000 pounds Supercalendered Book Paper; basis, 25x 38 inches, 90 and 100 pounds. Flat, cut any size, minimum width 24 inches, maximum width 42 inches. Minimum order, one weight, 20,000 pounds. R. P. Andrews Paper Company, 4.71 cents.

50 Per Cent Rag Machine-Finish Lithograph

No. 33—40,000 pounds Rag Supercalendered Red Book Paper; basis, 25x38 inches, 80 and 90 pounds. Flat, cut 32x48 inches. Minimum order, one weight, 12,500 pounds: Hawthorne Paper Company, 8.89 cents.

Half-Tone Book

No. 34—180,000 pounds, Half-Tone Book Paper; basis, 25x38 inches, 140 pounds. Flat, cut 24x36 and 38x48 inches: R. P. Andrews Paper Company, 4.61 cents.

Single-Coated Book

No. 35—350,000 pounds Single-Coated Book Paper; basis, 25x38 inches, 140 pounds. Flat, cut 29x41, 38x48, and 41x52 inches; the grain to run lengthwise of the sheet: The Whitaker Paper Company, Baltimore, Md. 6.44 cents.

Double-Coated Book

No. 36—150,000 pounds Double-Coated Book Paper; basis, 25x 38 inches, 140 and 160 pounds. Flat, cut 24x32 inches, 24x38, and 38x48 inches; the grain to run lengthwise of the sheet: The Whitaker Paper Company, 6.74 cents.

50 Per Cent Rag Machine-Finish Lithograph

No. 37—150,000 pounds 50 per cent Rag, Double-Coated Book Paper; basis, 25x38 inches, 140 and 160 pounds. Flat, cut 24x32, 24x38, 32x42, 38x48, and 41x52 inches; the grain to run lengthwise of the sheet: R. P. Andrews Paper Company, 11.10 cents.

Machine-Finish Lithograph

No. 39—70,000 pounds Machine-Finish Lithograph Paper; basis, 25x38 inches, 160 pounds. Flat, cut 19x24 and 24x38 inches; the grain to run lengthwise of the sheet: R. P. Andrews Paper Company, 4.90 cents.

50 Per Cent Rag Machine-Finish Lithograph

No. 40—80,000 pounds 50 per cent Rag Machine-Finish Lithograph Paper; basis, 25x38 inches, 160 pounds. Flat, cut 26x38 inches; the grain to run lengthwise of the sheet: R. P. Andrews Paper Company, 8.64 cents.

Mimeograph Paper

No. 43—1,500,000 pounds White Chemical Wood Mimeograph Paper, Nos. 40 and 48. Flat, cut 24½x30½, 24½x32, 24½x38, and 26x42½ inches; the grain to run lengthwise of the sheet: The Jessup & Moore Paper Company, Philadelphia, Pa., 4.28 cents.

No. 44—150,000 pounds Colored Chemical Wood Mimeograph Paper, blue, buff, green, pink and yellow, No. 40. Flat, cut 24½x 30½, 24½x32, 24½x38, and 26x42½ inches; the grain to run lengthwise of the sheet. Minimum order, one color, 5,000 pounds: The Aetna Paper Company, Dayton, Ohio, 6.53 cents.

50 Per Cent Rag Mimeograph

No. 47—1,300,000 pounds 30 per cent Rag Mimeograph Paper, Nos. 40 and 48. Flat, cut 24½x30½, 24½x32, 24½x38, 26x42½ and 28½x34½ inches; the grain to run lengthwise of the sheet: The Jessup & Moore Paper Co., 6.42 cents.

Writing Paper

No. 51—700,000 pounds Blue U. S. M. O. Safety Writing Paper, No. 32. Rolls, 11 and 12 inches wide, 24 inches in diameter, (3-inch iron cores): R. P. Andrews Paper Company, 75,000 pounds, 7.50 cents. The Perfect Safety Paper Company, Holyoke, Mass., 8.22 cents.

U. S. M. O. Writing, White & Blue

No. 52—25,000 pounds White and Blue U. S. M. O. Writing Paper, No. 32. Rolls, 8½ inches wide. 24 inches in diameter (3-inch iron cores). Minimum order, either color, 4,000 pounds: R. P. Andrews Paper Company, 7.80 cents.

Safety Writing, Colored

No. 53—10,000 pounds Colored Safety Writing Paper, blue, gray, green, pink, salmon, and yellow, No. 40. Flat, cut 17x28, 21x32, and 22x34 inches. Minimum order, one color, 1,000 pounds: The Perfect Safety Paper Company, 12.25 cents.

Sulphite Writing, White and Colored

No. 55—800,000 pounds White Sulphite Writing Paper, No. 32, Flat, cut 21x32, 22x34, 24x38, 26x34½, 28x34, and 32x42 inches: R. P. Andrews Paper Company, 5.39 cents.

No. 56—1,600,000 pounds White Sulphite Writing Paper, Nos. 40 and 48. Flat, cut 21x32, 22x34, 23x36 24x38, 28x34, and 32x42 inches: R. P. Andrews Paper Company, 5.35 cents.

No. 57—150,000 pounds White Sulphite Writing Paper, No. 26. Rolls, minimum width 16 inches, maximum width 38 inches (3-inch iron cores): The Whitaker Paper Company, 5.68 cents.

No. 58—250,000 pounds White Sulphite Writing Paper, No. 32. Rolls, minimum width 16 inches, maximum width 38 inches (3-inch iron cores): The Whitaker Paper Company, 4.98 cents.

No. 59—500,000 pounds White Sulphite Writing Paper, Nos. 40 and 48. Rolls, minimum width 16 inches, maximum width 38 inches (3-inch iron cores): The Whitaker Paper Company, 4.88 cents.

No. 60—15,000 pounds Colored Sulphite Writing Paper, blue, buff, cherry, green, pink, salmon, and yellow, No. 26. Flat, cut 21x32, 22x34, 24x38, and 28x34 inches. Minimum order, one color, 5,000 pounds: The Aetna Paper Company, 7.13 cents.

No. 61—600,000 pounds Colored Sulphite Writing Paper, blue, buff, cherry, green, pink, salmon, and yellow. Nos. 32 and 40. Flat, cut 21x32, 22x34, 24x38, 27x35, 28x34, and 32x42 inches. Minimum order, one color, 10,000 pounds: The Aetna Paper Company, 5.93 cents.

100 Per Cent Rag White Writing, Vellum Finish, Tub-Sized, Air-Dried

No. 63—5,000 pounds 100 per cent Rag White Writing Paper, Vellum Finish, Tub-Sized, Air-Dried, No. 56. Flat, cut 21x32 inches. Minimum order 2,500 pounds: The Barton, Duer & Koch Paper Company, 19.35 cents.

Map Paper

No. 64—20,000 pounds Lithograph-Finish Map Paper, Nos. 22 and 40. Flat, cut 24x38 inches, 30x40, 32x48, 36x52, and 38x48 inches. Minimum order, one substance, 5,000 pounds: R. P. Andrews Paper Company, 8.50 cents.

50 Per Cent Rag Lithograph-Finish Map, Tub-Sized, Air-Dried

No. 65—150,000 pounds 50 per cent Rag Lithograph-Finish, Map Paper, Tub-Sized, Air-Dried, Nos. 40, 48 and 56. Flat, cut 34x64, 36x44, 36x52, 38x44, 38x48, 40x52, 41x50, and 44x64 inches; the grain to run lengthwise of the sheet: The Barton, Duer & Koch Paper Company, 11.53 cents.

75 Per Cent Rag Lithograph-Finish Map, Tub-Sized, Air-Dried

No. 66—230,000 pounds 75 per cent Rag Lithograph-Finish Map Paper, Tub-Sized, Air-Dried, Nos. 32 and 40. Flat, cut 24x38 inches, 30x40, 32x48, 36x52, 38x48, 40x52, and 44x64 inches; the grain to run lengthwise of the sheet: The Virginia Paper Company, Inc., Washington, D. C., 15.41 cents.

No. 67—20,000 pounds 75 per cent Rag Lithograph-Finish Map Paper, Tub-Sized, Air-Dried, Nos. 48 and 56. Flat, cut 38x44, 41x50, 44x54, and 44x64 inches; the grain to run lengthwise of the sheet. Minimum order, one substance, 5,000 pounds: The Virginia Paper Company, Inc., 15.41 cents.

100 Per Cent Rag White Chart, Lithograph-Finish Tub-Sized, Air-Dried

No. 69—250,000 pounds 100 per cent Rag White Chart Paper, Lithograph-Finish, Tub-Sized, Air-Dried, No. 96. Flat, cut any size, minimum width 22 inches, maximum width 46 inches; without markers; the grain to run lengthwise of the sheet unless otherwise specified: The Barton, Duer & Koch Paper Co., 19.35 cents.

Manifold Paper

No. 70—150,000 pounds White Sulphite Manifold Paper, No. 18. Flat, cut 21x32, 22x34, and 28x34 inches; the grain to run 21-inch way on 21x32 inch size: The Barton, Duer & Koch Paper Company, 7.30 cents.

No. 71—50,000 pounds Colored Sulphite Manifold Paper, blue, buff, cherry, green, pink, salmon and yellow, No. 18. Flat, cut 21 x32 inches, 22x34, and 28x34 inches; the grain to run 21-inch way on 21x32-inch size. Minimum order, one color, 5,000 pounds: The Barton, Duer & Koch Paper Company, 8.30 cents.

50 Per Cent Rag Manifold, White and Colored

No. 73—50,000 pounds 50 per cent White Rag Manifold Paper, No. 14. Flat, cut 21x32, 22x34, and 28x34 inches; the grain to run 21-inch way on 21x32 inch size. Minimum order 5,000 pounds: W. L. Jones, Inc., New York, 17.50 cents.

No. 74—400,000 pounds 50 per cent Rag White Manifold Paper, No. 18. Flat, cut 21x32, 22x34, 24x38, and 28x34 inches; the grain to run 21-inch way on 21x32 inch size: W. L. Jones, Inc., 14.50 cents.

No. 75—15,000 pounds 50 per cent Rag Colored Manifold Paper, blue, buff, cherry, green, pink, salmon, and yellow, No. 14. Flat, cut 21x32, 22x34, and 28x34 inches; the grain to run 21-inch way on 21x32 inch size. Minimum order, one color, 3,000 pounds: The Barton, Duer & Koch Paper Company, 20.35 cents.

No. 76—60,000 pounds 50 per cent Rag Colored Manifold Paper, blue, buff, cherry, green, pink, salmon, and yellow, No. 18. Flat, cut 21x32, 22x34, 24x38, and 28x34 inches; the grain to run 21-inch way on 21x32-inch size. Minimum order, one color, 5,000 pounds: The Barton, Duer & Koch Paper Company, 17.60 cents.

100 Per Cent Manifold, White and Colored, Tub-Sized, Air-Dried

No. 78—35,000 pounds 100 per cent Rag White Manifold Paper, Tub-Sized, Air-Dried, No. 14. Flat, cut 17x28, 19x24, 21x32, and 22x34 inches; the grain to run the 21-inch way on 21x32-inch size. Minimum order, 5,000 pounds: The Whitaker Paper Company, 35.45 cents.

No. 79—25,000 pounds 100 per cent Rag White Manifold Paper, Tub-Sized, Air-Dried, No. 18. Flat, cut 17x28, 19x24, 21x32, and 22x34 inches; the grain to run the 21-inch way on 21x32-inch size. Minimum order 5,000 pounds: The Whitaker Paper Co., 30.15 cents.

No. 80—20,000 pounds 100 per cent Rag Colored Manifold Paper, blue, buff, cherry, green, pink, salmon, and yellow, No. 14. Flat, cut 17x28, 19x24, 21x32, 22x34, and 26x32 inches; the grain to run the 21-inch way on 21x32 inch size. Minimum order, one color, 3,000 pounds: The Whitaker Paper Company, 39.50 cents.

No. 81—20,000 pounds 100 per cent Rag Colored Manifold Paper, blue, buff, cherry, green, pink, salmon, and yellow, No. 18. Flat, cut 17x28, 21x32, 22x34, and 24x38 inches; the grain to run the 21-inch way on 21x32-inch size. Minimum order, one color, 5,000 pounds: The Whitaker Paper Company, 34.50 cents.

50 Per Cent White Glazed Manifold

No. 83—80,000 pounds 50 per cent Rag, White Glazed Manifold Paper, No. 16. Flat, cut 19x24 and 21x32 inches; the grain to run the 21-inch way on 21x32-inch size. Minimum order 10,000 pounds: W. L. Jones, Inc., 22.75 cents.

Bond Paper

No. 101—25,000 pounds White Sulphite Bond Paper, No. 26. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order 5,000 pounds: The Old Dominion Paper Company, Norfolk, Va., 6.49 cents.

No. 102—600,000 pounds White Sulphite Bond Paper, Nos. 32 and 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. R. P. Andrews Paper Company, 5.63 cents.

No. 103—10,000 pounds White Sulphite Bond Paper, No. 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order 5,000 pounds: The Barton, Duer & Koch Paper Company, 5.89 cents.

No. 104—50,000 pounds Colored Sulphite Bond Paper, blue, buff, cherry, green, pink, salmon, and yellow, Nos. 32 and 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order, one color, 5,000 pounds: The Aetna Paper Company, 6.43 cents.

No. 105—10,000 pounds Colored Sulphite Bond Paper, blue, buff, cherry, green, pink, salmon and yellow, No. 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order, 1 color, 2,000 pounds: The Aetna Paper Co., 6.63 cents.

30 Per Cent Rag Bond, White and Colored, Tub-Sized, Air-Dried

No. 109—250,000 pounds 30 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 26. Flat cut 21x32, 23x36, 24x38, and 28x34 inches: The Aetna Paper Company, 12.17 cents.

No. 110—800,000 pounds 30 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 32. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 9.83 cents.

No. 111—800,000 pounds 30 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 9.23 cents.

No. 112—800,000 pounds 30 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 9.23 cents.

No. 113—900,000 pounds 30 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 9.23 cents.

No. 114—60,000 pounds 30 per cent Rag Colored Bond Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon, and yellow, No. 26¾. Flat, cut any size, minimum width, 17 inches, maximum width, 32 inches. Minimum order, one color, 3,000 pounds: The Aetna Paper Company, 15.93 cents.

No. 115—250,000 pounds 30 per cent Rag Colored Bond Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon, and yellow, No. 32. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: Whiting Paper Co., Phila., 11.50 cents.

No. 116—230,000 pounds 30 per cent Rag Colored Bond Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon, and yellow, No. 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 10.53 cents.

No. 117—300,000 pounds 30 per cent Rag Colored Bond Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon, and yellow, No. 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 10.43 cents.

50 Per Cent Rag Bond, White and Colored Tub-Sized, Air-Dried

No. 120—80,000 pounds 50 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 26, Flat, cut 21x32, 23x36, 24x38, and 28x34 inches: The Barton, Duer & Koch Paper Company, 14.35 cents.

No. 121—800,000 pounds 50 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, Nos. 32 and 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 11.38 cents.

No. 122—200,000 pounds 50 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches: The Aetna Paper Company, 11.38 cents.

No. 123—15,000 pounds 50 per cent Rag Colored Bond Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon and yellow, Nos. 26, 32 and 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order, one color, one substance, 2,500 pounds. The Barton, Duer & Koch Paper Company, 13.64 cents.

75 Per Cent Rag White Bond, Tub-Sized, Air-Dried

No. 125—6,000 pounds 75 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 26. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order 2,500 pounds: The Virginia Paper Company, Inc., 19.885 cents.

No. 126—5,000 pounds 75 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, Nos. 32, 40 and 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order, one substance, 2,500 pounds: The Virginia Paper Company, Inc., 16.156 cents.

100 Per Cent Rag White Bond, Tub-Sized, Air-Dried

No. 128—6,000 pounds 100 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, Nos. 32 and 40. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order, one substance, 2,000 pounds: The Barton, Duer & Koch Paper Company, 21.25 cents.

No. 129—4,000 pounds 100 per cent Rag White Bond Paper, Tub-Sized, Air-Dried, No. 48. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order 2,000 pounds. The Barton, Duer & Koch Paper Company, 21.25 cents.

Declaration Bond, Tub-Sized, Air-Dried

No. 130—6,000 pounds Declaration Bond Paper, Tub-Sized, Air-Dried, Nos. 32 and 40. Flat, cut 17x22, and 22x25½ inches. Minimum order, one substance, 3,000 pounds: The Barton, Duer & Koch Paper Company, 22.50 cents.

Parchment Deed, White and Cream, Tub-Sized, Air-Dried

No. 131—4,000 pounds White and Cream Parchment Deed Paper, Tub-Sized, Air-Dried, No. 64. Flat, cut 33x34 inches. Minimum order 2,000 pounds: The Barton, Duer & Koch Paper Company, 21.50 cents.

Ledger Paper

No. 151—40,000 pounds White Sulphite Ledger Paper, Nos. 56 and 64. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order, one substance, 5,000 pounds: The Barton, Duer & Koch Paper Company, 6.60 cents.

No. 153—50,000 pounds White Sulphite Ledger Paper, No. 80. Flat, cut any size, minimum width 17 inches, maximum width 32 inches. Minimum order 5,000 pounds: The Barton, Duer & Koch Paper Company, 6.60 cents.

No. 153—10,000 pounds Colored Sulphite Ledger Paper, blue, buff, green, pink, salmon, and yellow, No. 80. Flat, cut 21x32½ inches. Minimum order, one color, 2,000 pounds: The Aetna Paper Company, 8.13 cents.

30 Per Cent Rag Ledger, White and Colored, Tub-Sized, Air-Dried

No. 154—25,000 pounds 30 per cent Rag White Ledger Paper, Tub-Sized, Air Dried, Nos. 48 and 56. Flat, cut 20x28, 21x32, 24x38, 28x29, and 28x34 inches. Minimum order, one substance, 5,000 pounds: The Barton, Duer & Koch Paper Company, 10.38 cents.

No. 155—15,000 pounds 30 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 64. Flat, cut 21x32 and 23x36 inches. Minimum order 5,000 pounds. Requirements same as for Lot 154: The Barton, Duer & Koch Paper Company, 10.38 cents.

No. 157—18,000 pounds 30 per cent Rag Colored Ledger Paper, Tub-Sized, Air-Dried, blue, buff, green, pink, salmon, and yellow, Nos. 56, 64, and 72. Flat, cut 21x32, 23x36, 24x38, and 28x34 inches. Minimum order, one substance, one color, 3,000 pounds. Requirements same as for Lot No. 154: The Barton, Duer & Koch Paper Company, 11.98 cents.

30 PER CENT RAG LEDGER, WHITE AND COLORED,

No. 160—100,000 pounds 50 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, Nos. 48 and 56. Flat, cut 18½x36, 18½x40¼, 20x28, 21x32, 24x38, 28x29, and 28x34 inches. Minimum order, one substance, 5,000 pounds: The Barton, Duer & Koch Paper Company, 11.64 cents.

No. 161—60,000 pounds 50 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 64. Flat, cut 21x32 and 23x36 inches. Minimum order 5,000 pounds. Requirements same as for Lot No. 160: The Barton, Duer & Koch Paper Company, 11.64 cents.

No. 162—90,000 pounds 50 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, Nos. 72 and 80. Flat, cut 20x28, 21x32, 24x38, and 28x34 inches. Requirements same as for Lot 160: The Barton, Duer & Koch Paper Company, 11.64 cents.

No. 163—50,000 pounds 50 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 88. Flat, cut 21x32½ inches. Minimum order 5,000 pounds. Requirements same as for Lot 160: The Barton, Duer & Koch Paper Company, 11.64 cents.

No. 164—110,000 pounds, 50 per cent Rag Colored Ledger Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon, and yellow, Nos. 56, 64, and 72. Flat, cut 18½x36, 18½x40¼, 19x24, 21x32, 23x36, and 28x34 inches. Minimum order, one substance, one color, 3,000 pounds: The Barton, Duer & Koch Paper Company, 12.64 cents.

No. 165—40,000 pounds 50 per cent Rag Colored Ledger Paper, Tub-Sized, Air-Dried, blue, buff, cherry, fawn, green, pink, salmon and yellow, No. 88. Flat, cut 21x32½ inches. Minimum order, one color, 5,000 pounds. Requirements same as for Lot No. 160: The Barton, Duer & Koch Paper Company, 12.64 cents.

No. 168—45,000 pounds 75 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, Nos. 48 and 56. Flat, cut 21x32, 24x38, 28x29, and 28x34 inches. Minimum order, one substance, 5,000 pounds: The Barton, Duer & Koch Paper Company, 14.28 cents.

No. 169—30,000 pounds 75 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 64. Flat, cut 21x32, 23x36, 24x38, and 28x34 inches. Minimum order, 5,000 pounds. Requirements same as for Lot 168: The Barton, Duer & Koch Paper Co., 14.28 cents.

No. 170—45,000 pounds 75 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, Nos. 72 and 80. Flat, cut 20x28, 21x32, 24x38, and 28x34 inches. Minimum order, one substance, 5,000 pounds. Requirements same as for Lot No. 168: The Barton, Duer & Koch Paper Company, 14.28 cents.

No. 171—10,000 pounds 75 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 88. Flat, cut 21x32½ inches. Minimum order, 5,000 pounds. Requirements same as for Lot No. 168: The Barton, Duer & Koch Paper Company, 14.28 cents.

No. 172—40,000 pounds 75 per cent Rag Colored Ledger Paper, Tub-Sized, Air-Dried, blue, buff, cherry, green, pink, salmon, and yellow, Nos. 56, 64 and 72. Flat, cut 19x24, 21x32, 23x36, and 28x34 inches. Minimum order, one substance, one color, 3,000 pounds. Requirements same as for Lot No. 168: The Barton, Duer & Koch Company, 15.50 cents.

No. 173—16,000 pounds, 75 per cent Rag Colored Ledger Paper, Tub-Sized, Air-Dried, blue, buff, cherry, fawn, green, pink, salmon, and yellow, No. 88. Flat, cut 21x32½ inches. Minimum order, one color, 4,000 pounds. Requirements same as for Lot No. 168: The Barton, Duer & Koch Paper Company, 15.50 cents.

100 PER CENT RAG WHITE LEDGER, TUB-SIZED, AIR-DRIED FOR PERMANENT RECORDS

No. 176—30,000 pounds 100 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 48. Flat, cut 21x32, 22¾x31½, 23x36, 24x38, and 28x34 inches. Minimum order 5,000 pounds: The Barton, Duer & Koch Paper Company, 21.25 cents. (Unbleached muslins and canton flannels).

No. 177—50,000 pounds 100 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 56. Flat, cut 20x28, 21x30, 21x32, 23x36, 24x38, and 28x34 inches Minimum order 5,000 pounds: The Barton, Duer & Koch Paper Company, 21.25 cents. (Unbleached muslins and canton flannels).

No. 178—25,000 pounds 100 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 64. Flat, cut 18½x42, 21x32, 23x36, and 28x34 inches. Minimum order 5,000 pounds: The Barton, Duer & Koch Paper Company, 21.25 cents. (Unbleached muslins and canton flannels).

No. 179—15,000 pounds 100 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 72. Flat, cut 20x28, 21x32, 24x38, and 28x34 inches. Minimum order 5,000 pounds: The Barton, Duer & Koch Paper Company, 21.25. (Unbleached muslins and canton flannels).

No. 180—8,000 pounds 100 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 80. Flat, cut 21x32½, and 21x42 inches. Minimum order 4,000 pounds: Carew Manufacturing Company, South Hadley Falls, Mass., 21.59 cents. (New white cream or unbleached factory cuttings).

No. 181—30,000 pounds 100 per cent Rag White Ledger Paper, Tub-Sized, Air-Dried, No. 88. Flat, cut 20½x24¾, 21x32½, and 22¾x31½ inches. Minimum order 5,000 pounds: Carew Manufacturing Company, 21.59 cents. (New white cream or unbleached factory cuttings)

INDEX PAPER

No. 184—80,000 pounds White Sulphite Index, single-ply; basis, 22½x28½ inches, 182 and 230 pounds. Flat, cut 21x32½, 22½x28½, and 24½x32½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one weight, 10,000 pounds: The Aetna Paper Company, 6.33 cents.

No. 185—5,000 pounds White Sulphite Index, single-ply; basis, 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½, 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one weight, 2,500 pounds: Walker-Goulard-Plehn Company, New York City, 7.24 cents.

No. 186—6,000 pounds Colored Sulphite Index, single-ply; blue, buff, fawn, green, pink, salmon, and yellow; basis 22½x28½ inches 182 and 230 pounds. Flat, cut 21x32½ and 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one color, one weight, 2,000 pounds: No bids.

No. 187—6,000 pounds Colored Sulphite Index, single-ply, buff, blue, fawn, green, pink, salmon, and yellow; basis, 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½ and 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one color, one weight, 2,000 pounds: No. bids.

50 PER CENT RAG INDEX, WHITE AND COLORED, SINGLE-PLY

No. 190—120,000 pounds 50 per cent Rag White Index, single-ply; basis 22½x28½ inches, 182 and 230 pounds. Flat, cut 21x32½ and 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one weight, 5,000 pounds: The Virginia Paper Company, Inc., 11.921 cents.

No. 191—15,000 pounds 50 per cent Rag White Index, single-ply; basis, 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½ and 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one weight, 5,000 pounds: The Virginia Paper Company, Inc., 11.921 cents.

No. 192—50,000 pounds 50 per cent Rag Colored Index, single-ply: blue, buff, fawn, green, pink, salmon, and yellow; basis 22½x28½ inches, 182 and 230 pounds. Flat, cut 21x32½ and 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one color, one weight, 5,000 pounds: The Virginia Paper Company, Inc., 13.174 cents.

No. 193—35,000 pounds 50 per cent Rag Colored Index, single-ply; blue, buff, fawn, green, pink, salmon, and yellow: basis, 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½ and 22 and 22½x28½ inches, with projecting colored paper marker between each 100 sheets. Minimum order, one color, one weight, 5,000 pounds: The Virginia Paper Company Inc., 13.522 cents.

100 Per Cent Rag White Index, Single-Ply, Tub-Sized, Air-Dried

No. 196—140,000 pounds 100 per cent Rag White Index, single-ply, tub-sized, air-dried: basis, 22½x28½ inches, approximately 286 pounds. Flat, cut 20½x30½ and 21x32½ inches: R. P. Andrews Paper Company, 19.84 cents.

Tissue Paper

No. 197—5,000 pounds White Tissue Paper. Flat, 21x32 inches, 18 pounds. Minimum order 1,000 pounds: The Barton, Duer & Koch Paper Company, 10.70 cents.

Facing Stereo Tissue

No. 198—1,000 pounds Facing Stereo Tissue Paper; basis, 19x24 inches, 9 pounds. Rolls 24 inches wide (3-inch iron cores). Minimum order 500 pounds: Cauthorne Paper Company, Inc., Richmond, Va., 83.00 cents.

Cover Paper

No. 201—200,000 pounds Colored Coated Cover Paper, India tint, light green, light gray and primrose. Flat 26½x41 inches, 208 pounds: Perkins-Goodwin Co., New York City, 6.607 cents.

25 Per Cent Rag Machine-Finish Cover, Colored

No. 203—25,000 pounds 25 per cent Rag Colored Antique Machine-Finish Cover Paper; quaker drab, robin's egg and terra cotta. Flat, 20x25 inches, 96 pounds, in wrapped bundles, with projecting colored paper marker between each 500 sheets. Minimum order, one color, 2,500 pounds: American Writing Paper Company, Inc., Holyoke Mass., 6.98 cents.

No. 204—140,000 25 per cent Rag Colored Smooth Machine-Finish Cover Paper; blue, brown, granite, green, pink, tea and yellow; basis 20x26 inches, 100 pounds. Flat, cut 20x25 and 33x46 inches, in wrapped bundles, with projecting colored paper marker between each 500 sheets. Minimum order, one color, 5,000 pounds: American Writing Paper Company, Inc., 6.88 cents.

50 Per Cent Rag Laid Cover, Colored

No. 205—10,000 pounds 60 per cent Rag Colored Laid Cover Paper (Manufacturer's stock shades); blue, buff, cream, white, gray, green, and terra cotta; basis, 20x26 inches, 130 pounds. Flat, cut 20x25 and 26½x41 inches, in wrapped bundles, with projecting colored paper marker between each 500 sheets. Minimum order, one color, 2,000 pounds: Knowlton Bros., Watertown, N. Y., 8.29 cents.

50 Per Cent Rag Antique Cover, Colored

No. 206—80,000 pounds 50 per cent Rag Colored Antique Cover Paper; dawn, gobelin-blue, khaki, moss-green, sage and suede. Flat, 20x25 inches, 96 pounds, in wrapped bundles, with projecting colored paper marker between each 500 sheets. Minimum order, one color, 5,000 pounds: American Writing Paper Co., 7.89 cents.

Manila Paper

No. 209—250,000 pounds Wood Manila Paper; basis, 24x36 inches, 60 to 120 pounds. ,Flat, cut 21x32 and 25x38 inches, in wrapped bundles, with projecting colored paper marker between each 500 sheets: Dobler & Mudge, Baltimore, Md., 3.355 cents.

No. 210—550,000 pounds Wood Manila Paper; basis, 24x36 inches, 60 to 120 pounds. Rolls, 9, 18 and 21 inches wide (3-inch iron cores; except 9-inch rolls which shall be wound on wooden plugs, 1½ inch hole): Dobler & Mudge, 3.105 cents.

Sulphite Manila

No. 211—40,000 pounds Sulphite Manila Paper; basis, 24x36 inches, 100 to 160 pounds. Flat, cut any size, in wrapped bundles of 500 sheets each. Minimum order 10,000 pounds: Perkins-Goodwin Company, 5.51 cents.

No. 212—80,000 pounds Sulphite Manila Paper; basis, 24x36 inches, 160 pounds. Rolls 18 inches wide (3-inch iron cores): Perkins-Goodwin Company, 5.35 cents.

Rope Manila

No. 213—30,000 pounds Rope Manila Paper; basis, 24x36 inches, 120, 140 and 160 pounds. Rolls, 48 inches wide (3-inch iron cores). Minimum order 10,000 pounds: Reese & Reese, Inc., 11.50 cents.

No. 214—45,000 pounds Rope Manila Paper; basis, 24x36 inches, 280 pounds. Rolls 48 inches wide (3-inch iron cores). Minimum order, 15,000 pounds: Reese & Reese, Inc., 10.90 cents.

Kraft Paper

No. 217—300,000 pounds No. 2 Kraft Wrapping Paper; bases, 24x36 inches, 60 to 160 pounds. Flat, cut any size, in wrapped bundles of 500 sheets each: R. P. Andrews Paper Company, 3.32 cents.

No. 218—450,000 pounds No. 2 Kraft Wrapping Paper; bases, 24x36 inches, 60 to 160 pounds. Cut any size, folded (25 sheets per fold), in wrapped bundles of 500 sheets each: R. P. Andrews Paper Company, 3.32 cents.

No. 219—250,000 pounds No. 2 Kraft Wrapping Paper; bases, 24x36 inches, 60 to 160 pounds. Rolls 11½, 24, 36, 39 and 48 inches wide, wound on wooden plugs, 1½-inch hole, or on 3-inch iron cores as may be specified: R. P. Andrews Paper Company, 3.07 cents.

No. 1 Kraft

No. 220—20,000 pounds No. 1 Kraft Paper; bases, 24x36 inches, 120 and 160 pounds. Flat, cut any size, in wrapped bundles of 500 sheets each: The Whitaker Paper Company, 4.90 cents.

Manila Tag Board

No. 221—200,000 pounds High-Finish Sulphite Manila Tag Board; bases, 24x36 inches, 160 to 280 pounds. Flat, cut any size, minimum width 24 inches, maximum width 38 inches, in wrapped bundles of 500 sheets each: The Barton, Duer & Koch Paper Company, 5.73 cents.

Calendered Tag, Manila and Colored

No. 224—550,000 pounds Manila Calendered Tag Board; basis, 22½x28½ inches, approximately 148 pounds. Rolls 23¼x26½ inches wide (6-inch iron cores): The Barton, Duer & Koch Paper Company, 7.00 cents. (Racquette River Paper Company, Potsdam, N. Y.)

No. 225—150,000 pounds Colored Calendered Tag Board; blue, brown, green, pink, red, salmon, and yellow; basis, 22½x28½ inches, approximately 148 pounds. Rolls, 23¼ and 26½ inches wide (6-inch iron cores). Minimum order, one color, 5,000 pounds: The Barton, Duer & Koch Paper Company, 7.75 cents. (Racquette River Paper Company, Potsdam, N. Y.)

Jute Tag

No. 227—120,000 pounds Jute Tag Board; bases, 22½x28½ inches, 200 to 280 pounds. Flat, cut any size, minimum width 22 inches, maximum width 32 inches, in wrapped bundles of 500 sheets. Minimum order 5,000 pounds: Reese & Reese, Inc., 7.50 cents.

Card Board

No. 301—40,000 pounds Manila Card Board; basis, 22½x28½ inches, 400 pounds. Flat, cut 17x28, 21x32 and 22½x28½ inches, in wrapped bundles of 500 sheets each, with projecting colored paper marker between each 100 sheets. Minimum order 5,000 pounds: The Whitaker Paper Company, 5.46 cents.

Railroad Board, White and Colored

No. 302—70,000 sheets White Railroad Board. Flat, 22x28 inches, 4-ply, each 100 sheets fully banded, packed in wooden cases. Minimum order 5,000 sheets: The Whitaker Paper Company, $22.95 per 1,000 sheets.

No. 303—20,000 sheets White Railroad Board. Flat, 22x28 inches, 8-ply, each 100 sheets fully banded, packed in wooden cases. Minimum order 5,000 sheets: The Whitaker Paper Company, $33.95 per 1,000 sheets.

No. 304—20,000 sheets White Railroad Board. Flat, 22x28 inches, 14-ply, each 50 sheets fully banded, packed in wooden cases. Minimum order 5,000 sheets: The Whitaker Paper Company, $52.65 per 1,000 sheets.

No. 305—200,000 sheets Colored Railroad Board; ash gray, blue, buff, green, lemon and orange. Flat, 22x28 inches, 4-ply, each 100 sheets fully banded, packed in wooden cases. Minimum order, one color, 5,000 sheets: The Whitaker Paper Company, $25.49 per 1,000 sheets.

Wood Bristol, Colored

No. 306—60,000 pounds Colored Wood Bristol Board; buff; basis, 22½x28½ inches, 150 pounds. Rolls 20 and 22 inches wide (6-inch iron cores): Old Dominion Paper Co., 3.997 cents.

No. 307—200,000 pounds Colored Wood Bristol Board; buff, blue, gray, green, melon, pink, quaker-drab, and yellow. Flat, 21x31 inches, 204 pounds, in wrapped bundles of 500 sheets each, with projecting colored paper marker between each 100 sheets: The Old Dominion Paper Company, 3.997 cents.

No. 308—300,000 pounds Colored Wood Bristol Board; blue, brown, buff, gray, green, melon, pink, and yellow; basis, 22½x28½ inches. 200 pounds. Rolls 20 inches wide (6-inch iron cores): The Old Dominion Paper Company, 3.997 cents.

No. 309—300,000 pounds Colored Wood Bristol Board; blue, brown, buff, gray, green, melon, pink and yellow; basis 22½x28½ inches, 200 pounds. Rolls 20 inches wide (6-inch iron cores): The Old Dominion Paper Company, 3.997 cents.

No. 310—100,000 pounds Colored Wood Bristol Board; buff; basis, 22½x28½ inches, 200 pounds. Flat, cut 12x18 and 14½x17½ inches, the grain to run lengthwise of the sheet, in wrapped bundles of 500 sheets each: Old Dominion Paper Co., 3.997 cents.

U. S. Postal Card Bristol

No. 311—10,000,000 pounds U. S. Postal Card Bristol Board; basis, 22½x28½ inches, 188 pounds. Rolls, 33 inches wide and 34 inches in diameter (6-inch iron cores): The Jessup & Moore Paper Company, 4.11 cents.

Miscellaneous Paper

No. 351—9,000 pounds White Paraffin Paper. Flat, 24x38 inches, 32 pounds. Minimum order, 1,000 pounds: Perkins-Goodwin Company, 11.74 cents.

White Gummed

No. 352—250,000 sheets White Gummed Paper. Flat, 17x22 inches, 40 pounds, exclusive of weight of gum used. Minimum order 50,000 sheets: The Virginia Paper Company, $5.675 per 1,000 sheets.

No. 353—10,000 sheets White Gummed Paper. Flat, 20x25 inches, 54 pounds exclusive of weight of gum used. Minimum order 5,000 sheets: Eureka Specialty Printing Company, Scranton, Pa., $7.55 per 1,000 sheets.

Blotting, White and Colored

No. 354—12,000 pounds White Blotting Paper. Flat, 19x24 inches, 100 pounds, in wrapped bundles of 250 or 500 sheets. Minimum order 4,000 pounds. Whitaker Paper Co., 5.5 cents.

No. 255—8,000 pounds Colored Blotting Paper (manufacturer's stock shade), buff and salmon. Flat, 19x24 inches, 160 pounds in wrapped bundles of 250 or 500 sheets. Minimum order 4,000 pounds. The Whitaker Paper Company, 5.54 cents.

25 Percent Rag Blotting, White and Colored

No. 356—40,000 pounds 25 percent Rag White Blotting Paper. Flat, 19x24 inches, 160 pounds, in wrapped bundles of 250 or 500 sheets. Minimum order 4,000 pounds. The Whitaker Paper Company, 6.53 cents.

No. 357—12,000 pounds 25 percent Rag Colored Blotting Paper (Manufacturer's stock shade), buff and salmon. Flat, 19x24 inches, 160 pounds, in wrapped bundles of 250 or 500 sheets. Minimum order, one color, 4,000 pounds. The Whitaker Paper Company, 6.53 cents.

Desk Blotting, Colored

No. 358—25,000 pounds Desk Blotting Paper (Manufacturer's Stock shade), blue and buff. Flat, 19x24 inches, 200 pounds, in wrapped bundles of 250 or 500 sheets. Minimum order, one color, 5,000 pounds. The Whitaker Paper Company, 5.54 cents.

No. 359—125,000 pounds Moss-green Blotting Paper. Flat, 19x24 inches, 200 pounds, in wrapped bundles of 250 or 500 sheets. Minimum order 10,000 pounds. The Old Dominion Paper Company, 5.887 cents.

White Stereotype Molding

No. 360—4,000 pounds White Stereotype Molding Paper for paper process; basis, 19x24 inches, 120 pounds. Rolls, 24 inches wide (3-inch iron cores). Minimum order 1,000 pounds. Cauthorne Paper Company, Inc., 9.43 cents.

Red Stereotype Molding

No. 361—3,000 pounds Red Stereotype Molding Paper for paper process; basis, 19x24 inches, 80 pounds. Rolls, 24 inches wide (3-inch iron cores). Minimum order 1,000 pounds. All bids rejected.

Oiled Manila Tympan

No. 362—35,000 pounds Oiled Manila Tympan Paper; basis, 24x36 inches, approximately 200 pounds. Rolls 38 and 48 inches wide; maximum weight 150 pounds; wound on wooden plugs, 1½-inch hole. Minimum order 5,000 pounds. Reese & Reese Inc., 7.10 cents.

Plate Wiping for Embossing Presses

No. 363—2,000 pounds Plate-wiping Paper for Embossing Presses; basis 24x36 inches, 100 pounds. Rolls, 24 inches wide (3-inch iron cores). Minimum order 1,000 pounds. Link Paper Company, 7.55 cents.

Back Lining, for Case-Making Machines

No. 364—6,000 pounds Back-lining paper for Case-Making Machines; basis 24x36 inches, 180 pounds. Rolls 12 inches in diameter, 9⅝, 11⅜, and 24 inches wide, wound on wooden plugs, 1 or 1½ inch hole. Minimum order 2,000 pounds. Cauthorne Paper Company, Inc., 3.92 cents.

Pressboard, Colored

No. 365—20,000 sheets Red Pressboard. Flat, 24x32 inches, thickness .0140 inch. Minimum order 5,000 sheets: The Whitaker Paper Company, $5.42 per 100 sheets.

No. 366—20,000 sheets Gray Pressboard. Flat, 30x36 inches, thickness .0300 inch. Minimum order 5,000 sheets: Walker-Goulard-Plehn Company, $14.50 per 100 sheets.

High Finish Red Sulphite

No. 367—50,000 pounds High Finish Red Sulphite Paper. Flat, 24x36 inches, 320 and 400 lbs., in wrapped bundles of 250 sheets. Minimum order 5,000 pounds: Reese & Reese, Inc., 6.50 cents.

Binders Board

No. 401—3,000 pounds News Board. Flat, 26x38 inches, No. 100 (To be trimmed square on four sides). Minimum order 1,000 pounds: The Bartgis Bros. Co., Ilchester, Md., 1.75 cents.

Chip Board

No. 402—700,000 pounds Chip Board; basis, 26x38 inches, No. 50. Flat, cut 21½x32½, 24½x38, 26x38, 28½x34½, and 32½x42½ inches: The Bartgis Bros. Company, 1.40 cents.

Marble Grained Lined Board

No. 403—36,000 pounds Marble Grained Lined Board; basis, 26x38 inches, No. 50. Flat, cut 22x32 inches: The Old Dominion Paper Company, 3.849 cents. (Design of our sample in color of your sample).

(Continued on page 67)

Canadian Paper Manufacturers Meet

All Sections of Canadian Pulp and Paper Association Report a Year of Great Difficulty — Secretary Boyce of American Paper and Pulp Association says Not Russian Forests But American Chemical Methods Are Becoming Dominant Factors in Competition

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 30, 1931.—The annual meeting of the Canadian Pulp and Paper Association, which was held at the headquarters in Montreal today, was the most subdued "get-together" in the history of the organization. Well attended as it was, and showing on the part of the various sections a more earnest and determined spirit than ever to work together for the common good, there could be no denying that a certain measure of gloom prevailed. Many circumstances contributed towards overshadowing the meeting. Every section had to report great difficulties consequent upon the general depression, and some in addition had special difficulties of their own to report, notably the news print industry, conditions in which have reached a critical stage. Then the members had to mourn the absence through death of some notable figures, including Warren Curtis, President of the Ontario Paper Company; P. B. Wilson, Chairman of the Newsprint Institute of Canada and a former President of the Association; F. J. Booth, of J. R. Booth, Limited; Edward Beck, Secretary and Manager of the Association for many years; J. A. Bothwell, President of the Brompton Pulp and Paper Company and a former President of the Association; D. F. Brooks and M. J. Scanlon, Directors of the Powell River Company, and Angus McLean, President of the Canadian Chamber of Commerce and formerly President of the Bathurst Power and Paper Company. Under these circumstances, all social functions were abandoned, and the proceedings confined strictly to business.

Harold Crabtree, who proved a most acceptable president during 1930, was re-elected president for the ensuing year, by acclamation, and A. E. Cadman was appointed secretary, to succeed the late Edward Beck. Mr. Cadman for some years had been statistician of the Association, and he is regarded as one of the most able and well-informed men in the industry.

The President's Address

Harold Crabtree, the president, in opening the proceedings, gave a review of the various phases of the pulp and paper industry during the year. He said in part:

The year 1930 will go down in history as a year of world-wide depression, of falling markets, decreased consumption and disorganized business, and every branch of industry was affected to a greater or lesser degree. Canada suffered in common with all other countries and the pulp and paper industry was adversely affected, not only by the general depression, but also by conditions peculiar to itself. This was the case in the news print branch of the industry. The Canadian mills, by reason of the falling off in the consumption of news print on the one hand, and an increase in the productive capacity on the other, were only able to operate at 69 per cent of capacity in 1930, as against 85 per cent in 1929. This curtailment of operations was attended by many hardships due to the closing down of several plants made necessary for the sake of efficient operation. The volume of consumption, however, was but 7 per cent below that of 1929 and only slightly below that of 1928. Some satisfaction may be found in the fact that this is the first year in many that no new tonnage is reported as coming on the market and it can only, therefore, be a matter of time before consumption catches up with production.

The companies engaged in the manufacture of book and writing papers also suffered from the depression and consequent lessened demand. The mills comprising this group are all well equipped to manufacture a wide range of papers to take care of the Canadian market and the policy of further extending their lines so as to render even greater service to the Canadian consumer will be continued.

The wrapping paper mills were not only affected by the depression in business, but also suffered from foreign pressure both in regard to kraft pulp and paper. Some relief was afforded by the action of the Government in increasing the tariff on wrapping paper, but the situation is still unsatisfactory.

The mills making tissue and toilet papers enjoyed a more fortunate position during the past year than perhaps any other branch of the industry.

The paperboard mills report an unsatisfactory year, due to a variety of causes. The situation among the board mills in the United States was a source of continual difficulty to the Canadian mills. There is a very considerable excess capacity in the United States and prices ruling throughout the year were not profitable. These conditions were reflected in Canada and aggravated the situation here, where an excess capacity has also been developed during the past few years. The manufacturers are making a sincere effort to co-operate and hopes are entertained that, with the reorganization of the Section, more stable conditions will result.

The situation in the various other branches of the industry, those engaged in the manufacture of coated paper, felt, waxed papers and others, will be gathered from the reports submitted by the chairmen of the different sections.

It will be seen that no branch of the industry escaped from the effects of the general depression and few regrets will be felt at the passing of the year 1930. There is, however, a feeling that the worst is over and there are slight indications of an improvement. On the threshold of the new year we cannot but feel that a country such as ours, possessed of such vast natural resources and with a virile population, is bound to make progress in spite of checks from time to time which add to the sum of our experience.

The Pulp and Paper Research Corporation last year reported the completion of the Research Institute Building and of the major part of its task. Meetings of the Corporation have been held during the year, and all obligations with regard to bond interest and sinking fund requirements have been met.

The reports of the Joint Administrative Committee, the Pulp and Paper Division of the Forest Products Laboratories of Canada and the Department of Industrial and Cellulose Chemistry of McGill deal with the work that is being carried on in the Research Institute show that the organization and the program of operation are now well rounded out and I feel that the work of the various departments will be of great benefit to the industry at large.

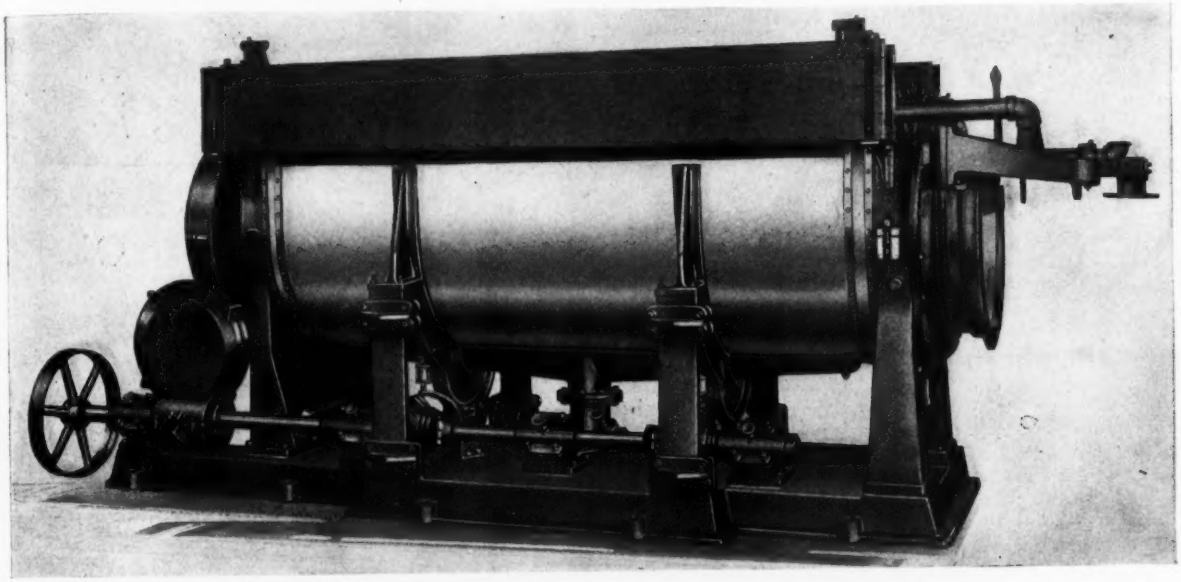
The Technical Section has made definite progress during the year and there was a noticeable increase in membership, in spite of a number of resignations due largely to members severing their connection with the industry.

The Woodlands Section reports a year of progress and gives proof of work directly benefiting the industry. A number of valuable studies were completed or brought nearer to completion during the year and new studies were initiated.

I regret that during the year resignations were received from three of the member companies, viz.: Anglo-Newfoundland Development Company, Canadian Paperboard Company, Nashwaak Pulp and Paper Company.

One of the companies resigned owing to their mill being closed down.

In conclusion, I would feel remiss in my duty as President of the Association if I did not urge upon the members, particularly during the trying time through which our industry is passing, the



Present cost requirements demand the Bird Screen

Profits are made, these days, by mills that watch *every* chance to reduce production costs.

The makers of over two-thirds of America's paper have found that Bird Screens handle their stock at the lowest cost per ton.

Let us show you how you can force down *your* costs with Bird Screens. Write.

BIRD SCREENS

BIRD MACHINE COMPANY BIRD MACHINERY **South Walpole, Massachusetts**

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cultivation of the utmost confidence and the exercise of wholehearted co-operation. Every branch of the industry has its difficulties and no one branch can live by itself. A long pull, a strong pull and a pull all together is what we need today, and in the measure of team-work and co-operation that is put forth shall we make our problems easier of solution.

Newsprint Section

John H. Price, chairman of the News Print Section, reported as follows:

The year 1930 has been one of many difficult problems for the news print industry. In the Spring of the year several meetings were held between the manufacturers and publishers, with a view to bringing about some form of stabilization which would insure a fair and economic price. An agreement in principle was arrived at between the news print manufacturers and the Paper Committee of the A.N.P.A., and was presented to the Annual Convention of the A.N.P.A. for its approval. Resolutions were passed at this meeting approving the principle of stabilization, but not touching upon the suggested price policy that might be jointly pursued during the next three years.

Due to the unsettled economic conditions of the world, and particularly the United States, bringing about a decline in the consumption of news print, it was found impossible to proceed further along the lines of the suggested policy, and the matter had to be allowed to rest until a more propitious time. However, since that time events have occurred which have radically altered the position of the Canadian industry. New production has come on in the United States and tonnage from abroad has tended to come in in increasing quantities. Consumption has fallen during 1930 by about 6 per cent and it would appear as if any increase is not likely for some time. Production in Canada for the year amounted to 2,499,631 tons, which shows a decrease of 229,196 tons from the 1929 figures. The industry in Canada operated during the year at 69 per cent of normal capacity, which compared very unfavorably with 85 per cent operation in 1929.

During the year the following machines were brought into production:

Mersey Paper Co.	1	125 tons	daily
New Brunswick Int.	4	500 "	"
Jas. Maclaren Co.	2	250 "	"
*Maine Seaboard Paper Co.	2	270 "	"
Powell River Co.	1	125 "	"
		1,270	

but at the present time there are no new machines in prospect.

Exports of paper from Canada for the years 1929 and 1930 were as follows:

		1930 Tons	1929 Tons
	Total Exports	2,331,011	2,510,634
To	U. S. A.	2,006,011	2,173,087
	United Kingdom	134,639	173,555
	South America	90,080	50,904
	Australia	45,096	63,136
	New Zealand	21,670	23,050
	South Africa	15,964	14,451
	All other	17,551	12,451

Prices of news print paper in every market of the world at the present time are unsatisfactory, due to extreme competition arising out of over-production. I would point out, however, that substantially there is no increased production planned in any exporting country in 1931, which, of course, will tend to relieve the pressure in foreign markets.

The problem of the news print industry is of great national importance to Canada and it is hoped that a lasting solution will be found for the many problems that are facing it at this time.

There is no doubt but that in this country we are better endowed with the basic elements necessary for the economic manufacture of news print than in any other country in the world, and it only remains to find a proper stabilizing influence to insure an early return to reasonable prosperity.

Board Section

K. S. Maclachlan, chairman of the Board Section, reported that conditions in the board industry had been far from normal, due to the depression and the price war in the United States. At present the Canadian board plants were able to operate at only between 55 and 65 per cent of capacity, and such a schedule was not profitable. While there had been a small decrease in the imports of board and paper boxes, conditions in the United States had forced many Canadian grades to be sold on an unprofitable basis. Every effort was being made to ensure that all importations of board and paper boxes were properly appraised and not undervalued. The new amendments to the Customs and Tariffs Acts should be very helpful in reducing still further the volume of importations.

Waxed Paper Section

J. H. Marshall, chairman, reported that during 1930 three additional companies for the manufacture of waxed paper came into operation, and this, together with the general depression, indicated a continuance of the difficult times experienced during the past 12 months. The capacity of Canadian mills was now far in excess of consumption, and only infinite care and attention to every business detail would hold the individual units of the industry together.

Felt Section

W. Earle Walker, chairman, reporting for the Felt Section, said the past year had been one of the most difficult in the history of the industry. Such was the decrease in the demand for roofing that felt mill production dropped to from 50 to 60 per cent of capacity. However, the industry was on a sound basis, and it was expected the industry would gradually improve from now on. A rising market should now be experienced and at today's prices, with preferential tariff within the Empire, it might be possible to obtain some export business.

Coated Paper Section

F. C. McElroy, chairman, reporting for the Coated Paper Section, said the volume of the coating business for 1930 showed a 10 per cent decline from the preceding year, but in view of general conditions, this was considered a fair volume. It was reasonable to assume that there would be an increase this year, but to increase the use of Canadian coated paper products should be of the best quality that could be produced, and manufacturing methods should be carefully studied with the object of maintaining quality.

Mechanical Pulp Section

Reporting for the Mechanical Pulp Section, A. Stewart McNichols, chairman, said:

The buoyancy noted in the ground wood market at the beginning of 1930 was short lived; the slight flurry in price resulting from a temporarily increased demand being, to a certain extent, responsible for accelerating the return of adverse conditions.

At the sight of higher prices, pulp brokers and traders brought over a few cargoes of Scandinavian ground wood, the arrival of which coincided with visible signs of a slowing up in demand, thereby further aggravating the situation.

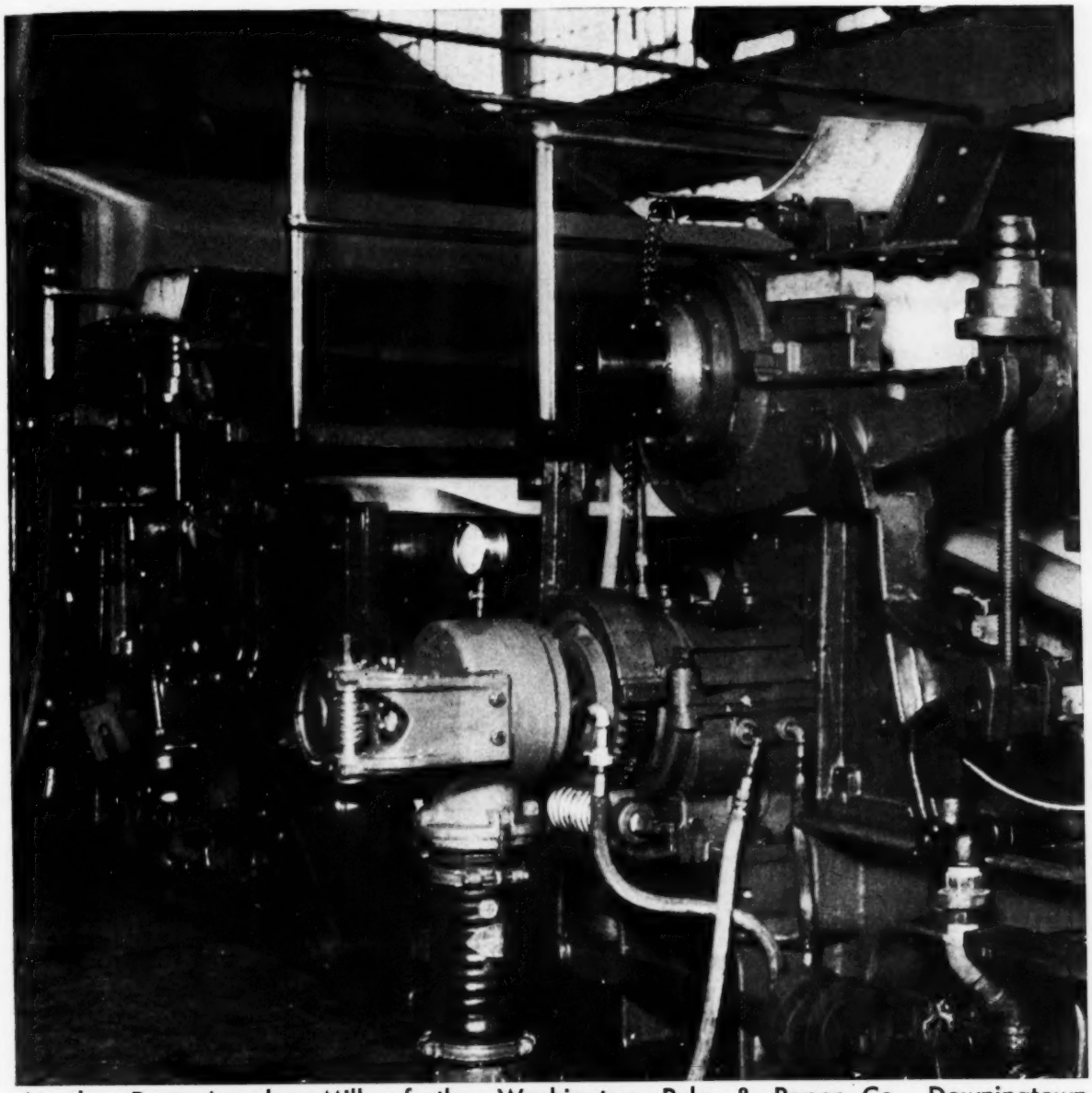
Depressed business conditions during 1930, with resultant decrease in consumption—keen competition among converting mills, some of which were absorbed by larger units—and the unsold imports of foreign pulp overhanging the market, were among the main factors which kept Canadian exports at a low level and deprived the ground wood market of the temporary benefit that usually accrues to it from drought conditions such as were experienced in 1930.

Exports of ground wood from Canada for the years 1925 to 1930, inclusive, are given hereunder:

To:	U. S. A. Tons	U. Kingdom Tons	Total Tons
1925	281,750	69,207	360,207
1926	258,527	109,957	382,078
1927	179,140	81,890	260,830
1928	167,258	36,414	203,672
1929	181,786	21,244	209,331
1930	193,759	15,000	208,759

The trend of Canadian exports to Great Britain and the conti-

* In U. S. A.



At the Port Angeles Mill of the Washington Pulp & Paper Co., Downingtown Adjustable CANTILEVER Type Suction Couch and Press Rolls increased production 20% and reduced steam pressure 33%. Quality was also improved due to uniform drying across the sheet. Write to the Downingtown Manufacturing Company, Downingtown, Pennsylvania, for a copy of the Suction Roll Catalog.

nent of Europe has been adversely affected by a state of overproduction, or, to be more explicit, by an installed grinder capacity in Scandinavia, substantially in excess of European requirements. According to current information, steps are being taken by important groups of Scandinavian ground wood producers to restrict output by 33 per cent as a safeguard against overproduction and further price decline.

While every Canadian producer has unbounded faith in the resources of the country and is firmly convinced that the present period of depression will be superseded by one of gradual recovery so soon as conditions become stabilized, how many producers are really doing their level best to contribute towards the desired goal? What does stabilizing mean to many, if not relying upon general conditions and the other fellow to produce the desired results?

The ground wood producers have to face the fact that commodity prices are low and prices of ground wood are no exception. It is time for producers to consider seriously, having the results of the past few years in mind, whether it is possible to continue to produce ground wood and market it henceforth at a reasonable profit.

Tissue Paper Section

George Carruthers, chairman, reporting for the Tissue Section, said the tissue paper mills report a fair business during the past year, although, like all other branches of the industry, they had been affected by the general business situation. The Westminster Tissue Mill, which was destroyed by fire in 1929, had been rebuilt, and a new converting plant had been opened in Vancouver by one of the other Western mills. Two American concerns, specializing in crepe paper and other paper specialties, had been established in the province of Quebec, one at Drummondville and one at Montreal. Imports of tissue papers and waxing-stock forced mills to accept very low prices. The customs returns showed an increase of over 50 per cent in these grades for the first eleven months of the year. It was hoped that the coming year would see a reduction of these imports and a greater demand for Canadian-made paper.

Wrapping Paper Section

C. V. Caesar, chairman, in his report for the Wrapping Paper Section, said lessened demand had resulted in a drastic cut in prices for wrapping paper, and some mills had found the margin between production costs and selling prices almost eliminated. Larger importations had added to the difficulties, total imports rising from 8,288,136 lbs. in 1929 to 11,167,070 lbs. in 1930, an increase of close to 35 per cent. It was hoped that some relief would result from the tariff adjustments effected by the government. With prices at the prevailing low levels the immediate future did not look very encouraging.

Chemical Pulp Section

F. G. Robinson, chairman, reporting for the Chemical Pulp Section, said a meritorious achievement was the fact that to a notable extent chemical pulp producers in Canada had maintained during 1930 their relative position in the market consuming their output. A policy of synchronizing output with consumption was being consistently followed in Canada, much to the benefit of industry throughout the world. He added:

In October, the sulphite pulp manufacturers in Norway, Sweden, Finland, Germany and Czechoslovakia entered into an agreement to restrict the production of sulphite pulp. In December, the Austrian manufacturers announced their adherence to the agreement. The rate of curtailment has been fixed for two periods: from October 1, 1930, to May 31, 1931, and from June 1, 1931, to December 31, 1931, for which periods it is 15 per cent. The terms of this agreement appear to indicate that the 15 per cent curtailment will be fully effective. Prospects of its success are further enhanced by the definite trend to large scale consolidations within the European sulphite industry.

The price situation became profoundly unsatisfactory during the year. Under stress of rapidly diminishing demand throughout the world and an increase in visible and potential supply, prices weakened steadily. A large increase in shipments of sulphite from mills in the Pacific Coast States to the eastern United States market at low prices contributed to the price decline.

In view of the increases in capacity in Europe and on the Pacific Coast, and the low ebb of demand, it may be some months before the results of the European sulphite curtailment begin to appear. Nevertheless, stabilization of the market is in prospect, and with the return of normal buying a period of steady improvement should set in.

Book and Writing Section

The Book and Writing mills, reported John F. Taylor, chairman, had experienced a difficult year and production declined appreciably. Importations of book paper declined slightly, but paper from other countries still formed an appreciable proportion of the total consumption, to the serious disadvantage to Canadian mills. The output of writing paper also declined from last year's figures. Up till 1930 there had been a steady increase in the production of writing paper in Canada since 1923 and it was hoped that when the present depression had run its course, this steady increase would be resumed.

Woodland Section

J. D. Gilmour, in his report as chairman of the Woodlands Section, said in part:

We have concentrated on the things which will give our members cheaper wood. We have carried further towards completion, or have completed, studies initiated in previous years, such as Sinkage studies; Tractors; Chutes; Booms; Loading Methods; and Motor Saws and Portable Slashers.

We have initiated further new work during the year: Efficiency of Saws (study to be made by Forest Products Laboratory in collaboration with Mr. Koroleff, Logging Engineer to our Section); Study of Flumes; Pole Roads; Adaptation of Logging to Silviculture; Deterioration of Pulpwood; and Improvements in Feeding Men.

Mr. Koroleff made a trip to the West, both in Canada and the U. S. A., to get data on chutes and flumes, and is working in co-operation with Professor Bryant, of the Yale Forest School. All this data will be available to your members during 1931. Similar studies were made during the past year covering chutes and flumes in the East, especially certain of the newer constructions.

It has been tentatively decided to publish a text book on logging in the Northeast, particularly pulpwood. This will take time, perhaps a couple of years, and the chapters on various portions will be made available to members whenever a study is completed.

We know that the cost of wood has to come down. We believe that the expenditure of money in investigating the business of logging in all its aspects is necessary in order to reduce the cost of wood. The Section provides a means whereby we can co-operate in the study of this business. It would pay any fair-sized company to do this work for themselves, but fortunately that is not necessary. We are ready to study any logging problem which concerns our members, and believe that in nearly every case the Section can contribute something useful towards its solution. There is, in fact, a marked increase in consulting work, besides the research work we are doing.

Technical Section

R. A. McInnis, as chairman of the Technical Section, said in part:

The organization developed last year to assume the responsibility of the Section to the Research Institute has proved both sound and adequate. The various committees appointed for this purpose have functioned in a highly satisfactory way, and have been a very definite help in the formulation and guidance of the work at the Institute. With this organization set up and functioning, there can be no excuse on the part of the industry that the work at the Institute is not at all times directly applicable to its problems. I feel that the machinery is now in order to reap the greatest and most definite returns from our venture in research, and I know the Institute staff are depending upon us for this guidance and support. The Section can look back on a year of

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THE finest, most significant indorsement of Tolhurst Centrifugals is the quiet record of their installation and daily use by responsible paper makers—by, for instance, the Rhinelander Paper Company.

Mills like Rhinelander don't install Tolhursts through sentiment, or mere desire to be known as modern. They use Tolhursts in order to produce *cleaner, more salable paper.*

A battery of five Tolhurst Centrifugals in the Rhinelander Paper Company's mill at Rhinelander, Wisconsin.

To Mill Executives:

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progress and development and can, I am firmly convinced, look forward to still further progress in the future. The organization for dealing with problems affecting the pulp and paper industry is well rounded out, and given the support of those in the industry, should function to the advantage of all concerned.

Annual Sectional Meetings

The annual meetings of the Technical and Woodlands Sections preceded the general meeting of the Association, and at these a number of interesting and informative papers were read.

The papers before the Technical Section included one by E. P. Cameron, of the Forest Products Laboratories of Canada on the manufacture of soda pulp for use in the manufacture of artificial silk. Another paper, entitled "The Nature of the Resins in Jack Pine and Their Relation to the Cause of Pitch Trouble" was read by Prof. Harold Hibbert, of McGill University, in the absence of J. B. Phillips, Ph.D., also of McGill, who had compiled it. C. R. Hazens, of the Milton Hersey Company, Montreal, described the methods at present in use for softening boiler feed water. Dr. H. W. Johnston, of the Forest Products Laboratories of Canada, reviewed the present conception of the manufacture of ground wood pulp. A paper entitled "Comparison of the British and Canadian Methods of Forming Test Sheets," was delivered by W. E. Adlington, M.Sc., of the Forest Products Laboratories of Canada.

Before the Woodlands Section the problem of "Flotability of Pulpwood and Sinkage" was introduced by A. Koroleff of the Canadian Pulp and Paper Association. W. Kishbaugh, Abitibi Power and Paper Company, Ltd., dealt with "Cruising and Its Use in Logging." J. E. Caron, Price Brothers & Co., Ltd., read a paper on "Feeding Men." W. A. E. Pepler, Canadian International Paper Company, discussed the "Deterioration of Pulpwood." Dr. C. W. Boyce, American Paper & Pulp Association, treated the question "Trends in Pulpwood Production," and A. Koroleff described "Summer vs. Winter Logging."

Officers for the Sections were elected as follows:

Technical Section: D. L. McLeod, chairman; councillors, B. de B. Millidge, F. L. Mitchell, A. A. McDiarmid and R. A. McInnis.
Compton—V

Woodlands Section: Chairman, J. D. Gilmour; vice-chairman, E. B. Davis; councillors, W. A. Delahey, M. R. Kane, H. Kennedy, H. Schanche and E. W. Earle.

Plain Words On Pulp and News Print Crisis

Outstanding among the addresses at the Technical Sections was that of Charles W. Boyce, Secretary of the American Pulp and Paper Association. He said that even though heavily mortgaged, even though forced to carry a wellnigh crushing overhead, the Canadian news print paper industry, which produced 37 per cent of the world's supply in 1929, is a sound one in point of production.

He pointed out that its six largest companies have under control more than a 50 years' supply of pulpwood. Each controls ten acres or more of land for every cord of annual consumption; a growth of a tenth cord per acre per year is all that is required to perpetuate these companies as they exist today. Because of Government ownership, the cost of forest control is not yet too burdensome, and stumpage prices are not out of line. Many of the smaller, independent companies are as well off. "What, then, is to prevent the eventual return of prosperity to the industry?" the speaker asked.

Answering his own question he declared that as long as the news print industry remained one dependent on the spruce for pulp Canada would have the advantage, but he warned that with kraft at $55 a ton and kraft pulp at $30 a ton the prices were perilously near those of groundwood and of news print, and even though kraft paper is brown and wholly unsuited for news print the spread in prices is altogether too narrow for comfort to white paper producers. Moreover, he said, the semi-chemical process which has raised havoc in the corrugating board industry is yet to be heard from and there may be possibilities in grinding woods that are cheaper than spruce.

So long as news print remains a spruce industry, however, Canada has no outside worry, he said. The United States spruce supply is too limited to create much more competition than exists at present. The Scandinavian and Finnish supply will support a larger industry but further use is more apt to be for pulp than for news print. The vast Russian spruce forests lie in regions where the rainfall averages 25 inches a year, where broad rivers meander northward through plains that slope but a foot a mile and where everything, almost life itself, lies frozen for 170 of the 365 days in the year. "No, Canada need fear no northern forest country," he averred, "Canada's troubles will come from other sources, from sources where pulpwood is cheaper." He was satisfied that countries that have long exported pulp to the United States must now, because of the chemical methods being developed in that country, soon reconcile themselves to finding new markets.

Canada would be interested in the efforts that are being made in the south to establish a news print industry there which would use, instead of spruce, slash pine, a material that was not bad in color and was not too pitchy. Canada's advantage lay in her possession of abundant, cheap, hydro-electric power.

"When these facts, possibilities, and dreams are summarized and others not yet guessed are thrown in for good measure," he continued, "it is impossible to see rest for those who have wearied in the service of the great god, Paper. Those possessing spruce cannot wait idly for the return of good times. Those blessed with cheaper pulpwoods are too well blessed, for actually wood is too plentiful.

"Production minded capitalists hurry to harvest it, only to impail themselves on the jagged rocks beneath the assumed markets that never existed. Their's is the curse of a self-created competition in which they try to jam two million ton production into a million-ton market. The one is no better off than the other. There is no immediate surcease; there can be none until producers worn weary in the pursuit of individualistic policies, shed hopes of personal supremacy to join in unselfish co-operation to serve well the world's paper needs. Then we may look forward confidently to the profit chance—the Holy Grail of business."

New York Reforestation Activities

ALBANY, N. Y., February 2, 1931.—The latest report from the Conservation Department shows that about 5,000,000 trees were planted during the past year by the various counties engaged in reforestation activities and under the terms of the Hewit Law the state has furnished equal financial aid. Essex and Saratoga counties expended the sums of $5,000 and $2,500 respectively in carrying out forest preserve projects, while the state also appropriated similar amounts. This was the first time under the new laws in which the state has matched county appropriations up to $5,000 for a single county in any year and the work done is fully told in the annual report of the Conservation Department.

During the latter part of 1929 many applications were received from counties seeking state aid for reforestation work in accordance with a chapter of the state laws which decides that requests for aid shall not be filed later than December 31 to be accompanied with a certification as to appropriation of county funds and the purposes for which they would be used. The Conservation Department then examines these county certificates before recommending the amount approved by officials for state contributions, such amount not to exceed $5,000 in any year. The department in considering applications has followed the system of advising state aid where it is most needed in each instance. The principal difficulty experienced was in the figures which certain counties intended to pay for land acquired for reforestation, which resulted in the adoption of the policy of allowing an amount per acre for land acquisition equal to the maximum paid by the state for acquiring land for state reforestation areas.

Menasha Plant to Adopt Full Time Schedule

Straw Board Will Again Be Manufactured At Mill of Menasha Paper Corp.—Considerable Improvements Effected Since Last Autumn, Including New Power Plant and New Rotary Room—Machinery Overhauled and Placed In Good Condition

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, WIS., February 2, 1931—Full time operations were to be started on February 1, 1931 by the Menasha Paper Corporation, Menasha, Wis., according to announcement of W. H. Nelson, president. About sixty additional men will be added to the payroll.

This plant has been down for some time because of the bankruptcy of the former owners. It was taken over late in the Fall by the new organization known as the Menasha Paper Corporation and since that time considerable has been accomplished in the way of improvements. A new power plant has been installed, a new rotary room provided, and the second floor rearranged to give larger working space. The machinery also was gone over and put in first class condition.

Straw board will be manufactured at this mill as it has in the past. A large quantity has been purchased from surrounding farms, and shipments also have been received from other points by rail, ready for steady operation. The mill has two Fourdriniers, 63 and 74-inch, and an output of 30 tons daily.

Important Improvements for Badger Plant

An important improvement at the Badger Paper Mills, Inc., Peshtigo, Wis., is a four color high speed rotary press. It was installed to take care of the bread wrapper demand and is turning out 100,000 an hour on waxed paper on a basis of 10,000 impressions an hour. The cost of the installation was $30,000.

When this company started two years ago in the former Peshtigo Paper Company mill, equipment was installed to turn out specialties complete from the pulp to the printing. Improvements have been going on continually, and a set of Bird screens was installed just recently. The company will add a wet end to its bond machine within the next month.

Products now included in the line are: Mimeograph wave bond, mimeograph laid paper, Vertex M. G. manifold, M. G. tissue, offset bond for lithographing, paper pads, sulphite bond (unwater marked), Tanonka water marked bond, drawing paper, posting ledger, typewriter paper, kitchen roll waxed paper, plain and printed waxed bread wrappers, delicatessen and shelf waxed paper, waxed tissue, sandwich wrappers and ice cream can liners.

New Forest Products Laboratory Planned

Preparatory steps are being taken at the University of Wisconsin, Madison, Wis., for erection of the new laboratory for the United States Forest Products Laboratory. The university agreed to provide the land for the building authorized recently by congress. A deed to the government has been authorized by the university board of regents, after arrangements for maintenance of the building have been cleared up. Attorneys differ on construction of the bill passed by congress, relative to an appropriation of $20,000 a year for this purpose. The building is to cost $900,000 and will be one of the most modern industrial research laboratories in existence.

Paper Stock Freight Rates Protested

Ground is being gained by the Wisconsin Paper and Pulp Manufacturers Traffic Association in its fight to prevent increases in rates on waste paper and rags shipped from New Orleans, La. and the Mississippi Valley to mills in Wisconsin. New rates representing increases of 4 to 6 cents were to have gone into effect on July 1, 1930 but postponement was granted until February 1, 1931 so as to permit investigation. George M. Curtis, an examiner for the commission, now brings in a recommendation against the increase. He declares a new basis of 20 per cent of first class rates was reasonable on minimum shipments of 30,000 pounds, but a 17.5 per cent of first class rate reasonable for paper, not in machine compressed bales, and with a minimum of 36,000 pounds. Mills contend that waste paper and scrap rags have no value unless transported to paper or board mills and that increased costs of transportation would destroy their use by paper manufacturers. The conservation value also was discussed in the briefs.

News of the Industry

Marinette County, Wis., has taken the lead in the state in establishing county forests as an additional means of conserving Wisconsin's remaining timber. The county board has authorized entry under the state forest crop law of four tracts totalling 139,480 acres. All of this land is suitable for forestry purposes and will be used for that activity in the future. These lands were tax delinquent, and under new state laws were acquired by the county instead of being bought by private individuals. In this way the tax delinquency problem also will be solved. In Ashland county steps are being taken to cut fire lanes through the federal and state forests in that district. One fire last season caused an outlay of $26,000 to check it, and the move is to prevent a repetition of such a loss. The move also is expected to help unemployment.

The year 1930 came to a close at the Interlake Pulp and Paper Company, Appleton, Wis., (subsidiary of the Consolidated Water Power & Paper Co.) without a lost time accident since February 16, 1930. This is the most remarkable record ever made by the mill, and probably will be heightened by the continued efforts of the crew. A survey in all of the four Consolidated mills reveals that the number of accidents was reduced 50 per cent in 1930. The Stevens Point mill has only one accident, the Biron mill went seven months through August without a mishap, and the main mill at Wisconsin Rapids for the months of June and July without any. This record was accomplished despite extensive building operations. Employees are striving to better this record in 1931.

Efforts are being made by the Association for the Relief of High Water, with headquarters at Oshkosh, Wis., to hold up recent action by the War Department increasing the level of the Menasha Dam to 21¼ inches. This is the control dam for Lake Winnebago, and the move makes the lake level 6¼ inches higher. Cities of the lower Fox River Valley brought about the order as a means of providing a better flow of water for power, navigation and sanitation in the dry summer months. Efforts will be made to hold a hearing. It is doubtful if the order will be rescinded, because the experiment with a lower lake level did not prove satisfactory.

In its plans for the annual safety school at Green Bay, Wis., the committee in charge has arranged for a paper and pulp section, so problems peculiar to these industries may be considered. W. F. Ashe, of the Thilmany Pulp and Paper Company, Franz Rosebush, of the Nekoosa-Edwards Paper Company, and M. G. Hoyman, of the Kimberly-Clark Corporation, are scheduled as speakers at these group sessions. The final meeting on March 4 will be a banquet at Hotel Northland, at which J. M. Conway, president of the Hoberg Paper and Fibre Company, will preside.

Paper Trade Moderately Active in Boston

Gradual Trend Toward Betterment In New England With Improved Sentiment Generally Expressed—Various Grades of Fine Paper Moving In Fairly Satisfactory Volume—Better Call For High Grade Manila Papers Experienced

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 2, 1931.—A moderate volume of paper sales was transacted during the past week. The January demand has been fairly satisfactory and rather well sustained in some cases, although in others the last half of the month has not been so active as the first half. Activity may be considered only as relative, compared with previous months, but in common with industry generally in New England, there is a very gradual trend towards betterment, with a practically universal improved sentiment. Some houses have sold good amounts of white paper, although profits have not been altogether gratifying. A number of wholesalers note more good business in the offing, and are making preparations to meet the coming demand for consummation of orders. In some quarters, at least, the call for high grade manila paper is substantially better. The year has started well in glazed paper. Textile mills have been placing more orders for paper and specialties, and in these lines there is a fair tone. There is a little better feeling in kraft, although some report a quieter market. Price-cutting is a dominant complaint.

The box board industry shows some improvement. According to the trade, there is no question but that January has been productive of a greater demand than December. With increased operation of textile mills, more orders have been placed to fill their requirements, including boards on which to wind cloth. The recent call for boards for shoe boxes is sustained, but there is not so much activity in the candy industry, with a correspondingly lower demand for boxes and boards.

The paper stock market remains generally dull, although there are signs of betterment in some quarters. Indications of improvement have developed in the fine writing paper district. Some mills which had not been running for a considerable period have resumed operations, so that their supply of raw material is becoming lower.

A. W. Blackman Addresses Canadian Paper Merchants

Arthur W. Blackman, president of the D. F. Munroe Company, and vice president of the National Paper Trade Association, was a guest of the Canadian Paper Trade Association at the recent convention of the association in Montreal. Mr. Blackman spoke on "Cost Accounting," a subject in which the Canadian Association is keenly interested. The problems of the paper trade in Canada are similar to those in the United States.

The Kraft Council, of which Arthur W. Blackman is vice-president, has had several meetings recently at which difficulties that bade fair to be serious, if neglected, were smoothed out. This body is a conference group formed at the request of the Kraft Paper Manufacturers Association to the Wrapping Paper Division of the National Paper Trade Association that a small committee be appointed to meet with an equal number of the kraft manufacturers from time to time, as the occasion required, to confer on matters of mutual interest at a round table discussion before definite action was taken by either group.

News of the Trade

The following, as representatives of the New England Paper Merchants Association, expect to attend the convention of the National Paper Trade Association in New York February 16, 17 and 18: Arthur W. Blackman, Floyd E. Blackman, Arthur E. Ham, Chas. A. Esty and Matthew O. Byrne. It is also expected that a sizable delegation consisting of other members of the New England Association will be present.

William M. Jordan, who has been associated with the Pratt Paper Company for the last three years and previously with the Jordan Card and Paper Company's interests, will continue the business conducted by his father, Colonel Jediah P. Jordan, proprietor of the Jordan Card and Paper Company. New capital will be invested, which will permit him to enlarge the present business.

The local office of the Federal Paper Company, 40 Midway street, is being closed. Their representative, Lewis F. Baker, will have his office at his residence in Wollaston, Mass.

Robert Ingalls, of Eaton, Crane & Pike Company, has opened an office in the Boston establishment of the firm for the sale, on a jobbing basis, of high grade bonds and flat papers in original packages. The stationery department will be continued as before.

Geo. H. Grauer, New England representative of Aronson Bros., of New York, who recently opened an office at 10 High street, is confined to the house by illness. Jerome J. Kessler, from the New York office, is at the local headquarters during Mr. Grauer's absence.

George D. Allen, treasurer of Knight, Allen & Clark, Inc., has returned from a very enjoyable trip to the West Indies.

E. J. Smith, who has been New England sales representative for the United Paperboard Company for the last six years, has resigned his position. Mr. Smith is well and favorably known as "Smithie" by his many friends in the set-up and folding paper box trade in the East. He has not yet announced his future plans.

E. Stansfield, director of E Butterworth & Co., Ltd., paper stock dealers, who has been visiting the local office of the firm, has returned to England.

G. E. Emerson, vice president of E. Butterworth & Co., Inc., has returned to the office after a few weeks absence on account of an infected thumb, on the right hand.

The Union Twine Company, Hopkinton, R. I., has been incorporated for manufacturing twine, etc., with a capitalization of $100,000. There are 1,000 shares of $100 each. The incorporators are Walter E. Palmer, Hopkinton, Monna C. Palmer and Edwin B. Stillman.

Black-Clawson Co. Elects Officers

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, February 2, 1931.—Herman L. Kutter has been re-elected president of the Black-Clawson Company at the annual meeting held last Wednesday. Other officers chosen were H. D. Martindale, first vice-president; A. C. Shinkle, second vice-president and H. R. Dilg, treasurer. All of these officials also were re-elected.

C. H. Helvey was elected to the board of directors, taking the place of his father, George Helvey, who died several weeks ago. Mr. Helvey was elected Secretary of the company at the organization meeting which followed.

The directorate includes, besides Mr. Helvey, Herman Kutter Frank C. Trowbridge, A. C. Shinkle, Max Strauss, H. D. Martindale, George Welliver, George Selby and Frank Cross, Jr., the latter of Cincinnati, O.

"You Can *SLASH* the High Cost of Screening"

IF you think your screening costs are high —and they probably are—go into your Screening Room and look around.

Chances are it is the dirtiest place in your mill. Two or three men are constantly at work cleaning up and making repairs.

Listen to the racket . . . . the incessant din of vibration . . . . a constant, everlasting bedlam of wear, wear, wear!

Friction costs money. Repairs cost money. Extra labor costs money. Waste costs money. High maintenance eats into profits.

The Valley-Thune Rotary Screen eliminates all this. There is no overflow or leakage—no vibration—no costly repairs —no noise—no high, labor overhead—no maintenance other than the usual upkeep on plates. And, plate costs on the Valley-Thune have now been reduced to a minimum through the use of SLOTTED, FLAT PLATES.

The entire machine has only one moving part—the inside drum which revolves without wear on anti-friction bearings. It takes no stretch of the imagination to realize what a tremendous saving can be brought about with the Valley-Thune Rotary Screen.

As for pulp cleanliness—that has been proved and demonstrated by all present installations. Clean pulp—comparable with the finest flat screens—is absolutely assured.

Write the Valley Iron Works Co., Appleton, Wisconsin for specific performance data on pulp cleanliness and operation costs.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.

Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Bright Outlook for Fine Paper Industry in Canada

Book and Writing Paper Manufacturers In Better Position to Meet Present Situation Since Withdrawal of Duty Drawback and Reasonable Protection Was Afforded By Government—Paper Merchants Satisfied With Existing Conditions

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., February 2, 1931—The question as to whether Canadian book and writing paper mills are benefitting by the repeal of the 80 per cent tariff drawback on importations of these products from the United States provides an interesting study in the initiative of Canadian manufacturers. A note of optimism prevails in the industry where hitherto discouragement was distinctly prevalent. In the past, in addition to the 80 per cent tariff drawback discrepencies in transportion charges played and still play, an important part to the detriment of the operations of the Canadian mills, freight rates from mills in Eastern United States to Toronto in many cases being more reasonable that the rates from Eastern Canada to Toronto.

Since the duty drawback at the last special session of Parliament was withdrawn and the Canadian mills given reasonable protection, they are in a much better position to cope with the present situation. In some quarters, it is said, the interests of the purchasers, mainly publishers, were sacrificed for those of the manufacturers. The fact that Canadian industry is afforded an impetus at a slight increase in preliminary cost, which no more than equalizes the additional expenditure of the Canadian mills, is inclined to be forgotten.

Small runs in Canada are responsible for the difference in operating costs between American and Canadian manufacturers. An indication of this is given by a rough comparison between the output of book paper in both countries. During the past year, approximately 1,500,000 tons of book paper were manufactured in the United States as against 36,000 tons in Canada. Prices, therefore, of necessity, must be adjusted on the difference between the respective manufacturing costs.

A canvass of important accounts reveals the fact that Canadian dealers are satisfied with existing conditions. Prompt deliveries and a comprehensive range of lines embracing the lower and the higher fields are factors that cannot be overlooked in a true analysis of the fine paper industry in Canada. Well equipped mills are in a position to meet most exacting demands made upon them. The mills, of course, suffered in common with other branches of activity from the current period of depression. Demand dropped considerably, due in a large measure at the beginning of 1930 to the heavy imports from the United States. The result will be reflected in the earnings of the various organizations. Still the future appears much brighter, for Canadians are being taught to aid home industries, particularly those which are measuring up to the exacting demands of a particular public. Canadian fine paper manufacturers are holding and even adding to their customers' lists.

Carton Council Holds Annual Meeting

Bart Sproule, of Collett-Sproule, Ltd., was elected chairman of the Toronto Carton Council at the annual meeting and dinner held in the King Edward Hotel on January 26 and will preside over the conferences of that body during the current year. In response to invitations sent out by the council, many of the paper box makers throughout Ontario, included in the membership of the Canadian Paper Box Manufacturers' Association, together with a number from the paper and other allied trades, joined in the gathering, and discussed various problems of the industry.

A generally optimistic view was taken of the outlook for 1931 and while general testimony was that the past year had been one of very hard going, with output and profits down, it was generally agreed that all signs pointed to the likelihood of gradual improvement in conditions early this coming summer. It was deemed probable that January, always a quiet month among the paper box manufacturers, would at least yield as much business as the corresponding month of last year. This applies to set-up, folding and the corrugated divisions of the industry. Both George Reid, the retiring chairman, and H. V. Hodder, the secretary, presented reports indicating that operations had been conducted on a satisfactory basis during the year considering the trade depression which has generally prevailed.

Alliance Announces New Executive

Alliance Paper Mills, Ltd., head office Toronto, have announced the election of Harold Crabtree as president of the company in succession to C. Howard Smith, whose resignation was handed in a few weeks ago. George W. Pauline, of Toronto, managing director, and L. E. Fleck, assistant managing director, have been appionted vice-presidents. Both Mr. Pauline and Mr. Fleck will continue to hold their former positions, the last named being in charge of manufacture at all the company's mills. E. Howard Smith was appointed to fill the vacancy on the board of directors occasioned by the resignation of his father, C. Howard Smith.

Western Pulpwood Shipments Heavier

Shipments of pulpwood from Western Canada to the United States showed a substantial increase during the past year. Canadian National Railway's figures for 1930 are almost 50 per cent larger than the previous year's totals. In 1930 more than 18,050 cars of pulpwood were shipped from the western region, as compared with 12,850 cars in 1929. The heavy movement has continued into the present year, as indicated by the 1,526 cars shipped since January 1. Manitoba contributed the majority of the pulpwood supplied, with a few cars from Saskatchewan and even some from British Columbia. Practically all shipments are billed to paper mills in Wisconsin.

Notes and Jottings of the Trade

About 125 of the workers and their friends were guests of the management of the Canadian Nashua Paper Company and the Canadian Sealright Company at Peterborough, Ont., a few days ago at a dinner and dance. The program was featured by the presentation to Mr. and Mrs. Marshall, who leave early in February for a vacation in Bermuda, of gifts from the employees. Guests from New Hampshire, Montreal and Toronto, were present and the evening proved a delightful one.

The Davis Paper Box Company, Ltd., has just been incorporated at Vancouver, B. C. The firm has its headquarters at 1670 Pandora street, Vancouver, and has an authorized capital of $125,000. Paper boxes and other paper products will be manufactured.

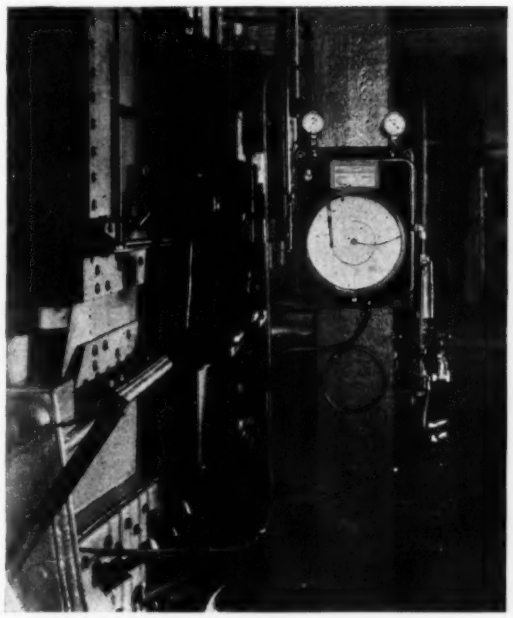
E. S. Munro, of the Wilson-Munro Company, wholesale paper dealers, Toronto, accompanied by Mrs. Munro, has left to spend the balance of the winter in Florida.

Employees of the Woodstock Paper Box Company, Woodstock, Ont., were recently entertained at the home of one of the members of the staff when a presentation was made to Mrs. Thomas Battram, an employee, who left the firm recently.

C. Ernest French, of the Toronto office of the Howard Smith Paper Mills, Ltd., was recently re-elected chairman of entertainment of the club. Mr. and Mrs. French are just now spending a winter holiday in New York, Atlantic City and Washington.

It Was Considered Impossible

But *Tycos* not only *Records* Grinding Temperatures — It *Controls* them



Tycos
Recording Temperature Regulator

This instrument is set to control at any desired temperature by the turn of a key. On the grinder application above (patent applied for) a record is given of grinding temperatures which are regulated within 1° variation.

NOT long ago, the chairman of a committee appointed to report on the subject of "Variables in Ground Wood Manufacture" stated that "information of great value would be developed by a study of stock temperature during the grinding process if some method of measuring the grinding temperature could be found."

This application had been considered by engineers as "a hard nut to crack." Attempts had been made . . . and failed. Grinder operators had thrown out expensive equipment that was supposed to do the job . . . but didn't. Some believed a satisfactory installation was impossible.

The Tycos Recording Regulator on the grinder above has been in successful operation for over 9 months in a large Canadian mill, controlling the temperature of the stock leaving the stone ***within one degree variation*** and giving a continuous chart record of great value to the operators.

This installation assists in producing stock of uniform texture, freeness, strength and general high quality. Too high or too low temperature are prevented and longer life is given to the stone. Workmen's time required to watch the pulp and operate hand valves is saved and the job done better.

And these are not all the advantages! Write for a copy of Tycos Catalog 6 for the Paper and Pulp Industry.

Taylor Instrument Companies

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INDICATING - RECORDING - CONTROLLING

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

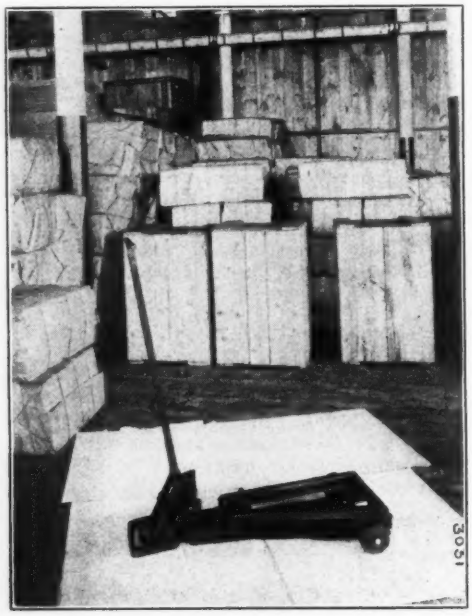
Conducted by Reginald Trautschold Consulting Engineer

Cranes, Hoists, Tractors and Trucks

I—Pioneering in Materials Handling

The pulp and paper mills of North America now handle literally hundreds of millions of tons of materials annually, in the form of raw production supplies and finished product, and in so doing make use of almost every known variety of crane, hoist, tractor and truck, as well as of countless conveyors and elevators of some type or another. Altogether, the materials handling problem in paper making as it is conducted today is one of the most stupendous in all industry, both in volume handled and in its influence upon production costs.

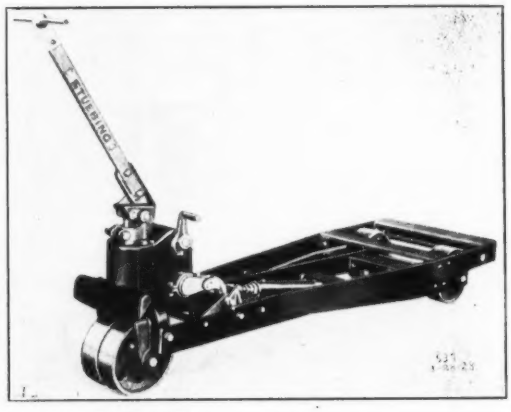
All the wonders to be found in the works of the wheelbarrow have been capitalized upon and some of the really more important developments in the line of modern materials handling equipment have originated in this basic industry of paper making. The hand lift truck, which has revolutionized short haul handling in very nearly every line of business, was first conceived by the superintendent of a large Eastern paper converter concern. The modern electric truck, another of the units to have played a prominent part in cutting handling costs in virtually all branches of industrial and commercial activity, was adapted to the particular needs of the paper making industry thirteen years ago. Developments and refinements in hoists and cranes and in the accessories used with such uits have come about as direct results of distinctive handling requirements encountered in the conduct of pulp and paper mills.



Courtesy: Yale & Towne Mfg. Co., Stuebing Div.

FIG. 1

The original hand lift truck



Courtesy: Yale & Towne Mfg. Co., Stuebing Div.

FIG. 2

Modern heavy duty lift truck, 10,000 lb. capacity

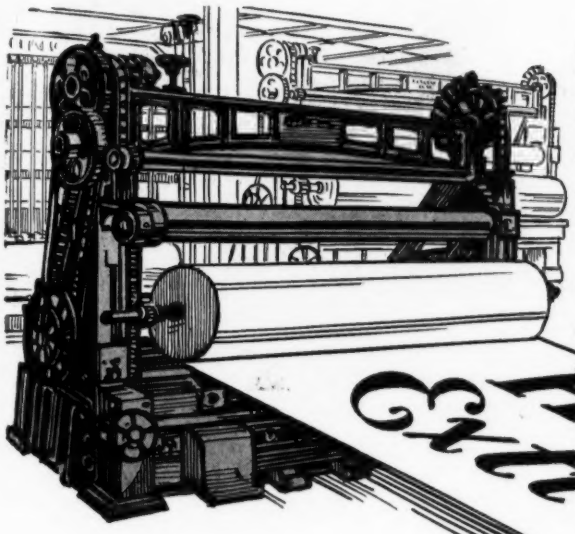
These important contributions to the science of modern materials handling are of chief concern only in so far as they meet the individual requirements of the individual mill, it is true, but they command especial consideration, nevertheless, for the reason that they are offsprings of common pulp and paper mill needs. So much so, in fact, that they are now looked upon as essential equipment in very nearly every paper making establishment, almost invariably fitting somewhere into the mill's individual materials handling system.

Hand Lift Trucks in Pulp and Paper Mills[1]

It was while serving as superintendent at the plant of the White and Wyckoff Manufacturing Company, Holyoke, Mass., that Henry W. Cowan designed and built, in 1910, the first hand lift truck. His idea was to reduce the number of handlings of paper, so as to minimize spoilage and cut down handling labor.

"The first lift truck, with its complement of wooden platforms, passed the initial tests with flying colors. It made good without question and about five others were built shortly afterward. Even before the system was extended from the stock room,

[1] T. F. Moriarity, Assistant Sales Manager, The Yale & Towne Manufacturing Co., Stuebing Division.



Here are Extra Profits!

EVERY paper manufacturer is interested in learning *why* certain competitors are so successful. They cannot afford to overlook the facts.

Do you realize that competitors are manufacturing paper of greater uniformity because they are using Uniform Newport Wood Rosins?

These Wood Rosins are produced under a technical control made possible by Newport methods of manufacture. Now here's the big fact worth remembering. Newport Wood Rosins, *in addition* to being clean, free from foreign matter and uniform, are obtainable at actually less cost.

Quality and price combine to make up the "yes" or "no" to your salesman. Offer both. Write today for complete facts.

For Neutral Paper Size *Regular FF. Wood Rosin*
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For High Free Rosin Size *No. 8 FF. Wood Rosin*

Address Our Main Office: *75 East 45th St., New York City* Plants: *De Quincy, La.—Pensacola; Fla.—Bay Minette, Ala.*

GENERAL NAVAL STORES COMPANY, *Inc.*

NEWPORT

where it started, nearby paper mills, the American Writing Paper Company group, Crocker-McElwain, Chemical Paper, Hampshire and Taylor-Logan, heard of it and sent representatives to see the thing work. These observers returned enthusiastic and soon afterwards the first hand lift factory was organized to take care of the aroused lift truck demand from these mills.

"It wasn't long before other progressive paper mills in Massachusetts, such as Strathmore and Crane, recognized the value of the development. New Hampshire and Maine mills showed interest, all being desirous of adapting the new paper industry specialty, as it was then looked upon, to their particular requirements, and soon after the organization of the lift truck factory the use of its output spread to other factories where paper was handled in large quantaties, to box factories, to printers, binders and lithographers.

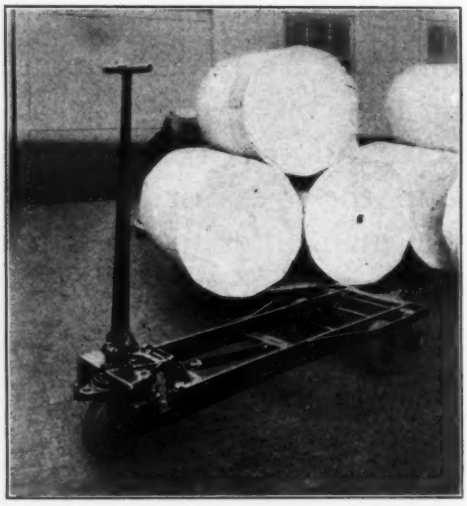
"Today, it would be difficult to find a pulp or paper mill of any consequence without lift trucks or skid platforms. Or, for that matter, any concern handling paper on a large scale, for lift trucks are now used generally by converters and those connected with the printing and publishing trades.

"Although the hand lift truck has only just celebrated its twentieth birthday, the first truck having been constructed late in 1910, it has already saved many millions for pulp and paper mills. Based upon the cost of handling methods general before its introduction, the savings made with lift trucks and platforms run as high as 80 per cent and average, conservatively, between 40 and 60 per cent. Of course, some users effect greater savings than others, the extent of the savings depending largely upon the nature of the materials handled, the operating conditions and the methods that were in use previous to the introduction of lift trucks.

"Very few concerns can furnish any very accurate estimate of the savings made, however, and such statements as have been secured usually cover only payroll economies, making no allowance for decreased spoilage, etc. For example, one Boston firm making accounting books figured that five hand lift trucks were effecting a saving of between $3,000.00 and $5,000.00 a year, as without the trucks three more men would have been required on the payroll. These trucks cost $480.00 and the skid platforms about $400.00. As this equipment may reasonably be expected to give at least ten years of service, the investment of considerably less than $1,000.00 is earning a return of 300 to 500 per cent each year.

"Another paper converting firm reports savings of $2,400.00 each year with two trucks, in one department alone the wages of two men being saved by the operation of lift trucks and platforms. Incidentally, such appraisal is very much in line with the experiences of many other concerns and it is now quite generally held that a hand lift truck will save $100.00 a month in payroll. In other words, it is generally conceded that each lift truck employed enables one man to accomplish as much as two men without the aid of the truck.

"Taking into account benefits other than labor economies, one user of hand lift trucks and skid platforms found a storage addition, previously deemed essential, would not be required, saving an investment of some $5,000.00. It was found that each skid platform was a capable substitute for a platform truck with wheels and that the skid platforms could be nested and piled twenty high on the same floor space required for the accommodation of a single platform truck. Another concern has reduced its freight demurrage bills by several hundred dollars a year

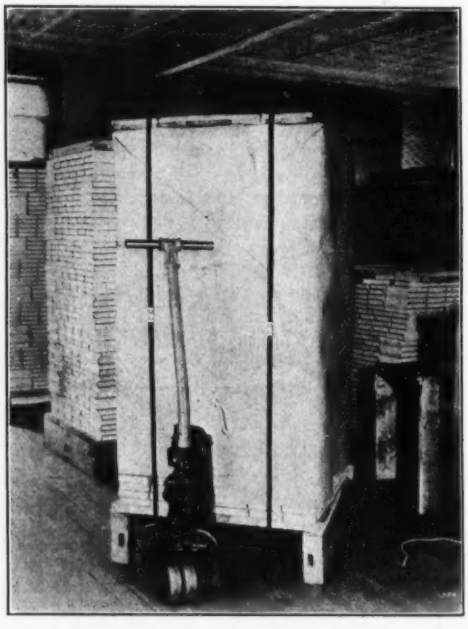


Courtesy: Yale & Towne Mfg. Co., Stuebing Div.

FIG. 3
Hand lift trucks handling skid loads of heavy paper rolls

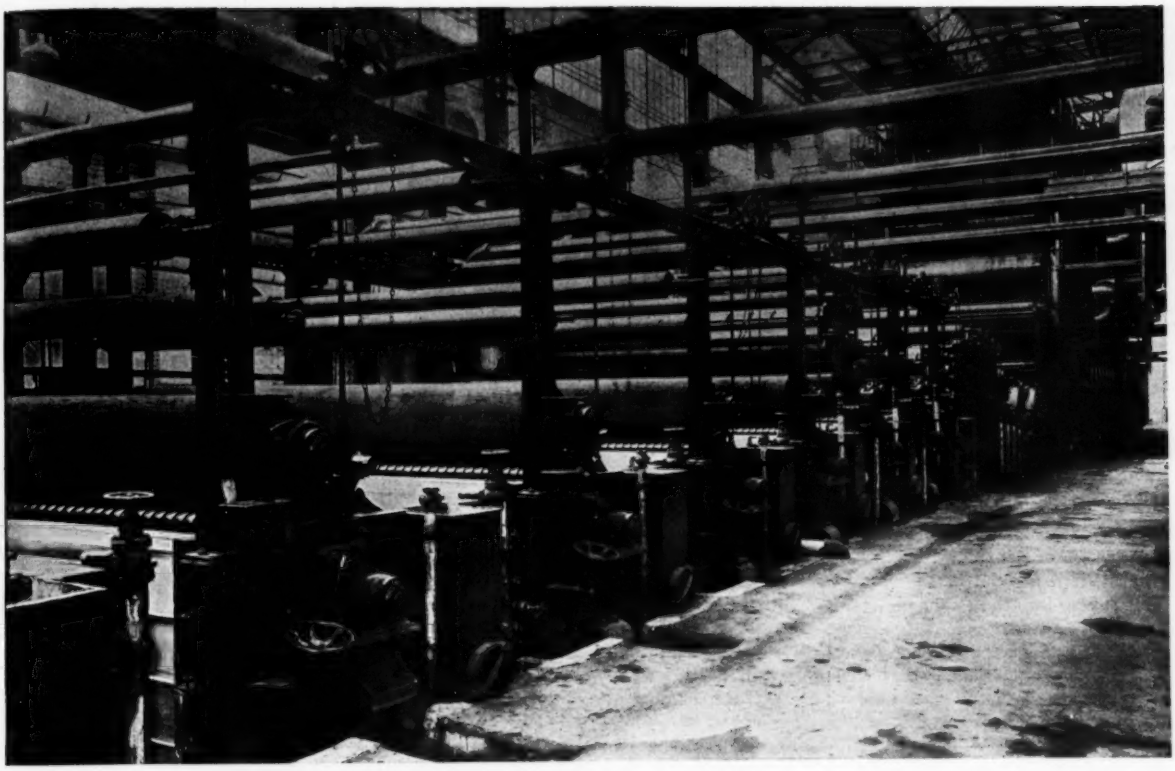
Courtesy: Lewis-Shepard Co.

FIG. 4
Unloading skidded pulp from freight car with hand lift truck



Courtesy: Lewis-Shepard Co.

FIG. 5
Hand lift trucks easily handle heavy consignments packed for modern shipment



164-inch seven cylinder paper machine in Manayunk mill of Container Corporation of America. To save floor space, the Dryer rolls are arranged in three groups, the second and third being above the first.

Is your Equipment Modern?

MOORE & WHITE influence in the field of paper making machinery is shown not only by the number of Fourdrinier and Cylinder paper machines now in service, bearing the M & W nameplate, but by the numerous accessory devices originated or improved by M & W, and now regarded as standard.

Among these devices are the modern Fourdrinier shake; the automatic wire guide and felt guide; the revolving reel stand; the four-drum winder; the paper cutter with variable-speed revolving head; the mechanical lay boy; and numerous improvements in details.

The pressure for better methods was never so great as today. If your machinery is limiting your output, or is putting an undue burden on your operating costs, we shall be glad to analyze the situation and suggest rebuilding or new equipment as needed.

No obligation will be implied by your inquiry.

Paper Machines
- Fourdrinier
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Drum Winders
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Slitter Parts
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Other specialties for paper making

THE MOORE & WHITE COMPANY

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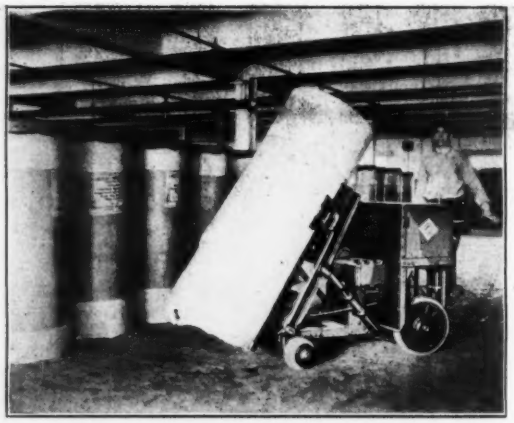
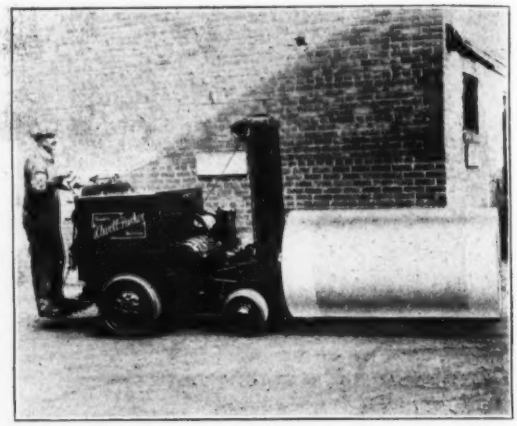


Courtesy: The Elwell-Parker Electric Co.
FIG. 6
Heavy rolls are handled expeditiously and stored compactly in Canada with electric trucks



Courtesy: The Elwell-Parker Electric Co.
FIG. 7
Economical and rapid transportation

by the speedy loading and unloading of freight cars made possible by the use of lift trucks.

"The modern method of shipping product on skid platforms, thereby saving substantial amounts in boxing expense, is still another economy attributable to the use of lift trucks, hand or powered. It was originated by a wood pulp mill at Mount Tom, Mass., just five miles north of the birthplace of the lift truck, and has proved so very satisfactory that the Department of Commerce, some two years ago, strongly advocated its general adoption by all shipper. The Mount Tom mill has been shipping in this manner for almost fifteen years, using two hand lift trucks and about 4,000 skid platforms. Many of these platforms are "out on the road" half the time and may be seen piled on the delivery platforms at railroad stations throughout New England.

"For many firms, including American Writing Paper, Crocker-McElwain, West Virginia Pulp and Paper and Champion Coated Paper, the lift truck system of handling is performing a complete job. Pulp is unloaded from freight cars by hand and placed upon skid platforms, on which it is hauled into the storeroom and later delivered to the beaters, only one actual handling taking place. Likewise, finished paper is hauled from the machines to the counters, to the calenders, to the drying lofts, to the packaging departments, to finished stockrooms, to packages and in many instances to the customer on skid platforms. Then customer's plant, it is very apt to ride around to various departments on the same skid platforms. Altogether, life for much paper stock is one skid ride after another, which is far better for it than manual handling after each operation with the accompanying dangers of spoilage.

"It is felt that the estimate of $1,200.00 per year savings for each lift truck in service is a conservative one and that upon such basis quite accurate figures on total savings for some of the prominent paper mills using hand lift trucks can be determined. For example, the computations which follow, based upon an average saving per truck, with thirty skid platforms, of $1,200.00, are believed to be substantially correct.

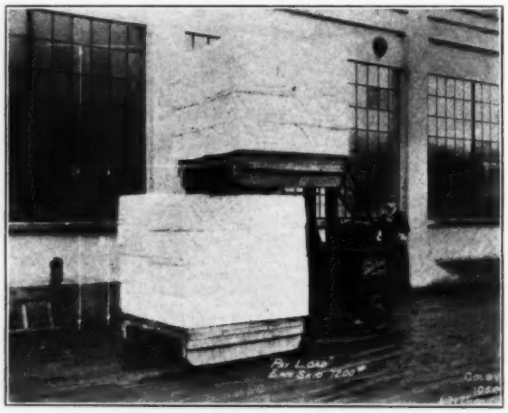
User	Approximate Number Trucks	Platforms	Approximate Cost	An. S'v'gs.
American Writing Paper Co.	105	3,150	$23,000	$126,000
Crocker-McElwain Co.	60	1,800	13,200	72,000
Eastern Manufacturing Co.	63	1,890	17,000	75,600
Hammermill Paper Co.	50	1,500	14,500	60,000
Morris Paper Co.	52	1,560	17,200	62,400
Ohio Boxboard Co.	350	10,500	116,000	420,000

The Yale & Towne Manufacturing Co., Steubing Division.

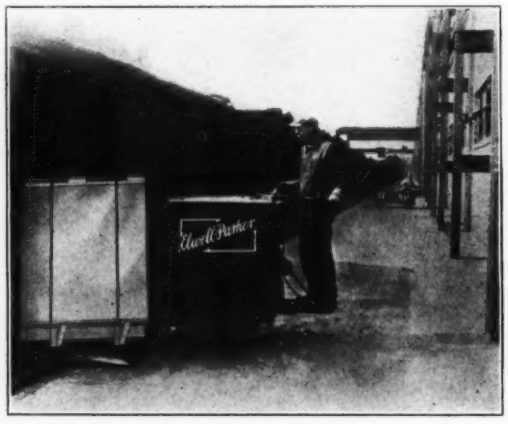
News Print Electric Trucks Developed in Canada[3]

The now familiar electric truck for handling rolls of newsprint, roofing, strawboard, wall board, etc. weighing 2,000 to 3,000 pounds each, without the truck operator even having to dismount from the machine, was first brought out in Canada. It was developed in 1918, at the instigation of the managers of a couple of Canadian paper mills who believed that the finishing room and loading costs on rolls of newsprint could be quite

[3] E. W. Holden, Industrial Equipment Company Limited, representing The Elwell-Parker Electric Co.



Courtesy: The Elwell-Parker Electric Co.
FIG. 8
Handling two skid loads of 7,200 lbs. each



Courtesy: The Elwell-Parker Electric Co.
FIG. 9
Heavy skid shipments easily handled in and out of box cars

We wear out Tensilastics to prove how long they'll wear

Once upon a time (though this is no fairy tale), rubber roll performance was largely a matter of guess and chance. The manufacturer guessed and the mill operator took the chance. Sometimes it was months or years before the manufacturer got a report,—usually in the form of a complaint. Sometimes he never got it,—simply lost a customer.

* * *

Then, the American Wringer Company, pioneers in rubber roll construction, pioneered in the theory that rolls could be made to perform better if it could be determined *beforehand* exactly how they would perform.

* * *

To this end, mill conditions were duplicated in the laboratory, scientifically and intensively. For example, to learn how well a certain compound would stand the stress of time, an "aging bomb" is used that in a single day duplicates a full year of normal aging.

* * *

Again, to determine how a press roll will "stand the gaff", an ingenious machine wears samples out at speeds and pressures twenty-five times as strenuous as the most severe mill practice.

* * *

These and other tests, accurate performance records and the strict laboratory control of manufacture take all the guess and chance out of Tensilastics. Before a Tensilastic Rubber Roll is shipped, our technicians must be convinced that it will perform as promised. That is why our files show so many encouraging reports; **press rolls on high speed kraft giving more than a year of steady service without regrinding; and table rolls running continuously with no sign of wear,** even at the deckle or under the wire edge; satisfaction, appreciation, and most convincing of all, repeated reorders.

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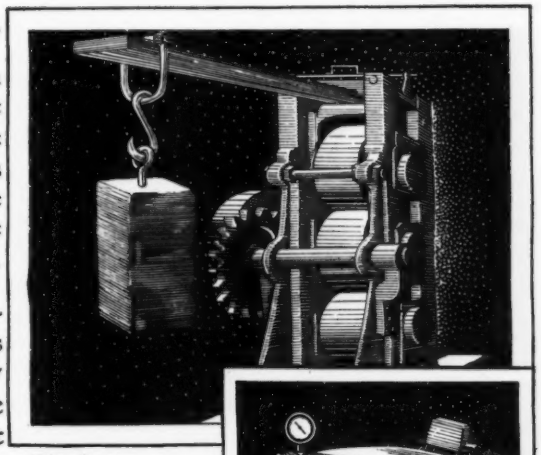
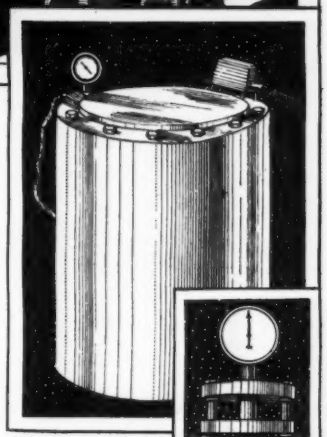
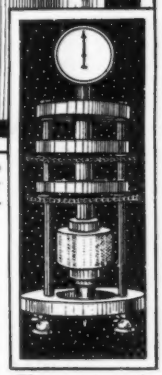


This device wears rubber rolls at 25 times the speed and pressure of normal service.



Electric aging bomb duplicates in a day a year of atmospheric aging.



Plastometer, the measure of density.

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TENSILASTIC RUBBER ROLLS

T11

substantially reduced by efficient mechanical handling. So well founded was this belief, that today most of the newsprint produced in Canada is handled with the aid of these modern tools. In thirty mills, sixty-five of these trucks of one make alone are in service, including some of the original units furnished in 1918.

"These trucks are used chiefly for picking up rolls from their horizontal position in the finishing room, turning them into a vertical position and either placing the rolls in storage or trucking them directly to box cars for shipment. When the handling was done manually, as was general only a little more than a decade ago, it usually required seven men to up-end a roll and the old practice of hand trucking 1,500 pound rolls of newsprint from the finishing room to the freight car was very slow and dangerous to man and stock. A roll was often dropped while being trucked, in which case it nearly always had to be either rewound or cut-up into flat stock before it left the mill.

"When these trucks were first placed in service, the heading machine used for end-capping the rolls of newsprint after they have been wrapped was an unknown piece of apparatus and the mills used the trucks to do this end-capping. One end of the wrapping was crimped in while the roll was in the horizontal position on the floor and the roll was dropped in the vertical position on top of an end cap, with the pasted side up. The top end was then crimped by hand by a man passing along the tops of the rolls, the pasted end cap placed on top of the roll and a weight placed on top to set the cap. Today, virtually all modern mills are equipped with end-capping machines, relieving the electric truck of this extra operation and permitting it to be devoted more continually to its proper functions of picking-up the rolls from the floor without assistance, trucking them to the freight train and discharging the rolls in position in the box car. Usually a man is employed in the box car to line up the loading and sometimes to pole a roll into place, but for the most part this work is all done by the truck. Some of the more recent models even go so far as to elevate rolls and stack them in a horizontal position on top of an up-ended layer of rolls, when the box car height permits such loading.

"While the length of haul is a matter which has to be reckoned with, it is not at all unusual to load a full size 72-inch roll of newsprint in one minute. In fact, it it quite customary in estimating the requirements of a mill to figure one truck with a spare battery, which acts as a relay, as being capable of loading 150 tons of newsprint daily. Where the haul is short and operating conditions favorable, this record is frequently greatly outdone, in some instances one truck with a spare battery loading as high as 260 tons daily."

The newsprint electric trucks to which the foregoing remarks refer, while they are obviously one of the most valuable of

Courtesy: Automatic Transportation Co., Inc.

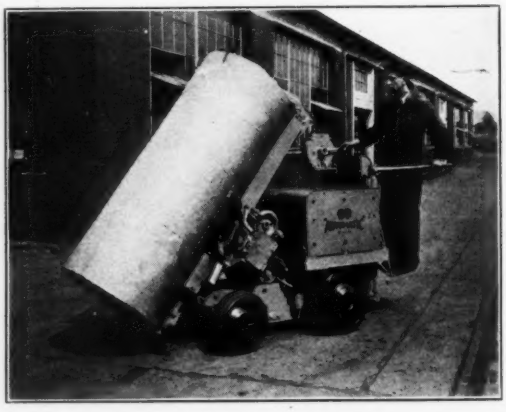
FIG. 10

Handling 1,628 lb. rolls from storage to car with tiering type electric trucks cuts labor costs 60 to 75 per cent

mechanical handling aids to the newsprint mill, are by no means the only variety of electric trucks virtually indispensable in the operation of a modern mill. There are elevating platform trucks, crane trucks and several other type of units for special duties, as well as tractors of various kinds.

The elevating platform trucks are used extensively for handling of pulp on skids, flat stock, cartons and case lots. These units, as now developed, are capable of picking-up as much as five tons of material in 12 seconds and of trucking such load on the level at a speed of from 250 to 375 feet per minute. They are particularly suitable for the handling of wall board, plaster board and heavy sheets of any character.

The modern crane trucks designed for paper mill services also have a multiplicity of uses in and about the mill, easily lifting heavy rolls, crates and boxes and loading them into cars



Courtesy: Automatic Transportation Co., Inc.

FIG. 11

Dexterous electric trucks handle heavy paper rolls in any position, from horizontal to vertical

Courtesy: Automatic Transportation Co., Inc.

FIG. 12

Elevating truck and one man handles 4,000 to 5,000 lbs. of flat stock and travels at 5 miles an hour at the Richardson Co. mills at Lockland, Ohio

CLEAN Screened Stock ... and Plenty Of It ...

Obviously, the ideal way to assure clean stock is with the minimum of agitation after it enters the screen. Undue disturbance often forces through the slots dirt specks that ordinarily should float away.

The Harmon Inclined Screen,—the pioneer inclined type screen, built exclusively by Bagley & Sewall,—is designed and constructed to pass the maximum amount of *clean* stock, *without excessive disturbance or turbulence.* Its inclined plates promote the rapid, free flow of stock, with a positive current that floats dirt off at the low end, without rakers or showers. Special ground chilled cams, each operating an individual vacuum chamber, give a sharp, upward, slot-cleaning blast and a s-l-o-w downward draw that brings through the maximum amount of stock. Stock keeps moving, without plugging or overflow, and *without supplemental agitation.*

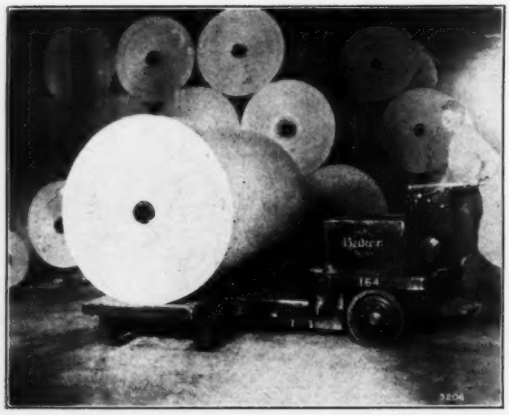
Its unusually large, non-clogging screening capacity and positive action permit the use of finer-than-usual plates,—another deterrent to the passage of dirt. Actual experience, in mills that measure efficiency by quality as well as quantity, has proven that the Harmon Inclined Screen delivers more and cleaner stock at lower upkeep and power cost than any other type of diaphragm screen.

We'd like to tell you more about it,—write us.

The Bagley & Sewall Co.

Watertown, N.Y.

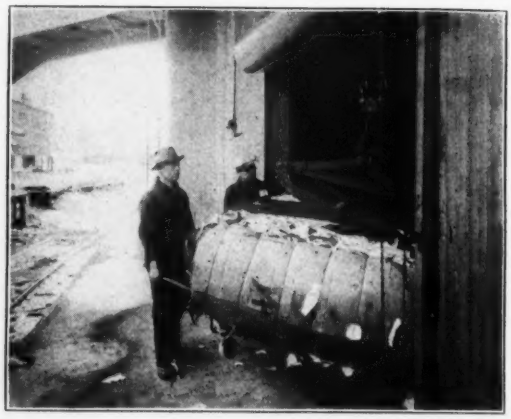
50



Courtesy: The Baker-Rauling Co.

FIG. 13

The Upson Co., Lockport, N. Y., handles heavy rolls easily and safely with electric tractor-trucks



Courtesy: J-B Engineering Sales Co.

FIG. 15

Multiple tong grab relieves the truckers at the entrance to the storage building

or trucks. They are capable of operating in packed aisles and can pass through low and quite narrow doorways.

The cost of operating these several types of mill, electric trucks, based upon the experience of a large number of users who, incidentally, have found their use increases the handling capacity of truckers from 50 to 80 tons per week per man, runs between $3.50 and $4.00 a day, an average rate of about 40 cents per working hour per truck. This charge is held to cover fully, not only the expense for power, but the expense burdens of depreciation, interest on investment and depreciation.

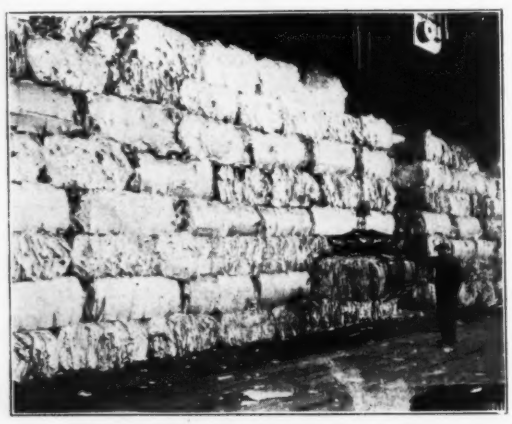
Special Grab Increases Hoist and Crane Capacity.

Important as have been these developments in lift and electric trucks, pioneering along other and quite dissimilar lines has also been productive of drastic cuts in handling costs. Many ingenious devices have been developed for increasing the capacity of and speeding up the operation of standard materials handling equipment. One of these, also brought out in an eastern paper mill, is a new type of multiple tong, hoist and crane, grab, or grappling device, which has been instrumental in reducing expenses in a number of mills where much of the handling is done by traveling cranes and hoists, particularly in connection with the distribution of the raw stock as it is received at many mills.

This device is characterized by a compact, yet commodious, arrangement of tongs which, not only pick-up the baled material without getting under it, but without the liability of the objectionable tearing, or breaking, of bales general when employing grabs of the usual ice-tong variety. The grappling pressure when applied is distributed over the sides or ends of the bale and a "hold-open lever" attachment keeps the paws of the grab open while the tongs are adjusted for handling the load and also during the act of dropping the load. A flip of this lever, on commencing the lift, releases the tongs for the grappling hold while lifting and a slight over-travel of the hoist hook, when the load has been hoisted to place, releases the tongs and the bale reposes in the desired position.

The adaptability and value of this ingenious grappling device, suitable for use with almost any variety of hoist or crane, is best shown, perhaps, by a brief account of its functions in a typical handling system for the distribution of incoming raw stock, such as that employed at the Montville plant of the Robert Gair Company. Taking up the various handling operations in the raw stock distribution will aid, moreover, in visualizing the value of the grappling device from an actual "service rendered" angle.

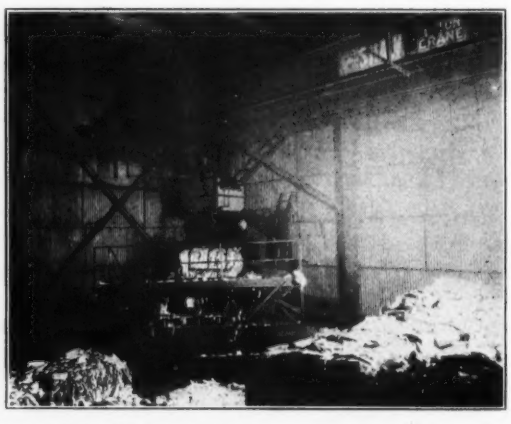
At this mill, the raw stock consists of common waste paper used for liner stock and high grade waste paper and pulp used for filler stock, the handling and distribution of which has been carefully planned to assure adequate active and reserve supplies and low handling costs. The layout of the plant and arrangement of manufacturing processes is such as secures a steady, one direction movement in handling all divisions of in-



Courtesy: J-B Engineering Sales Co.

FIG. 14

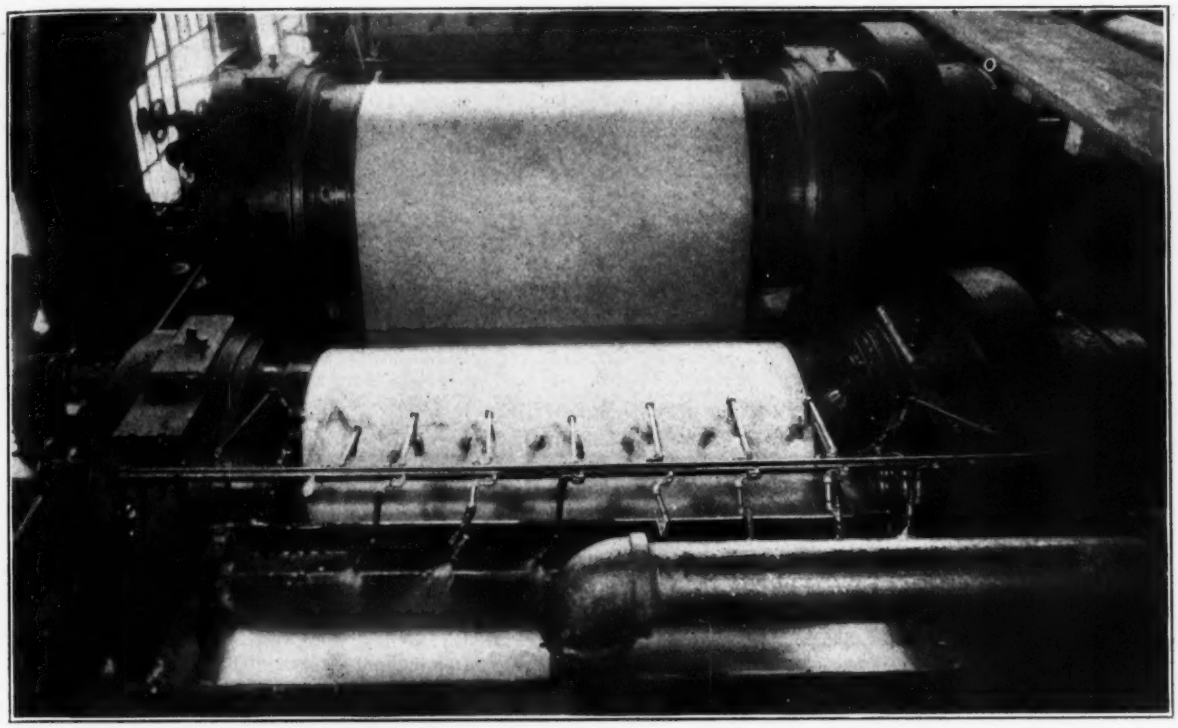
New multiple tong grab handles bales without damage and expeditously in and out of storage, piling neatly and compactly



Courtesy: J-B Engineering Sales Co.

FIG. 16

Transfer of bales from crane to conveyor entails no stopping of conveyor, the multiple tong grappling device releasing the bale the instant it is swung into position



THE SANDUSKY VACUUM FORMING MACHINE

Particularly adapted to the manufacture of medium and heavy weight board, felt, roofing, etc., in sheets of one, two or three plies. Illustration shows formation of two-ply sheet.

The Paper & Textile Machinery Co. will cooperate with such paper machine builders as mills may prefer, who are in a position to build the Vacuum Forming Machine through licenses granted by this company.

There are three commercial installations of The Sandusky Vacuum Forming Machine at the present time. Write today for recommendations regarding the application of this machine to your products.

The Paper & Textile Machinery Co.
Sandusky Ohio.

SANDUSKY
SINCE 1910
PIONEERS IN THE ART OF
CENTRIFUGALLY CASTING
HEAVY TUBES

coming raw stock; that required for immediate use (active material) and that for reserve storage (first and final reserve material).

The railroad spur serving the mill skirts the beater rooms at one end of the plant and then turns and runs between the main mill building and an adjacent storage building on a somewhat lower level. This provides two points and two elevations for freight car unloading, an upper and lower track. The active material is unloaded on the upper level, that of the beater rooms, as is also the first reserve material, while the final reserve material is unloaded on the lower level, that of the storage building.

The beater rooms consist of a filler stock beater room, a liner stock beater room and a third division devoted to live pulp and paper storage, the first reserve material. Storage accommodations in these various rooms and on the upper level unloading platform play an important part in the attainment of low cost and efficient movement of the raw stock.

Incoming pulp is taken from the freight cars and so far as possible stored upon the upper level, covered platform, from which it is taken by the beater room checkers as it is required. When the platform storage is filled, the first reserve supply of pulp is trucked to the nearby active pulp storage point in the beater rooms. Additional pulp is consigned to final reserve storage in the building on the lower level, the freight cars being shunted from the upper to the lower track.

The storage building is provided with numerous entrances facing the lower level track, in order to reduce the length of truck hauls, and a traveling crane which runs the length of the building and parallel to the unloading track. With this arrangement, material placed in storage has only to be trucked to the nearest entrance and there the crane unloads the hand truck employed and carries the pulp to the pulp storage (final reserve) section of the building.

In placing the pulp in reserve storage, the bundles, instead of being placed flat four deep, are placed on end two high, as by so doing only about two-thirds as many bundles have to be lifted to get the same storage as when they are stacked flat. The adoption of the better stacking method, not only lightened the work of the stackers, but made it possible to reduce a storage house gang from six truckers and six stackers to six truckers and four stackers.

The handling and distribution of waste paper stocks follow much the same steps, the incoming active material being unloaded on the upper level and properly distributed, while the waste paper for storage (final reserve) is unloaded on the lower level and goes into the storage building.

Reclamation of either the pulp or waste papers from the storage building is effected by the traveling crane and either an elevator running between the lower and upper levels in the main mill building or a conveyor leading from the storage building to the filler beater room. As the waste paper is used chiefly in the filler beater room, the conveyor is used to transport most of the waste paper and the elevator reserved largely for raising the pulp stock between the two levels, the elevator serving both the liner beater room and the filler beater room.

The crane when first installed was provided with an ordinary ice-tong type of grab and this proved quite an obstacle to any approach to speedy and economical materials handling. The tongs of the grab would dig into the bales, not only tearing and damaging the stock, but becoming embedded in the bales when taking hold of them at the entrances to the storage building. So troublesome was this, in fact, that two men had to be kept on the pile to loosen the bales and untangle the tongs. The same faults had to be contended with when reclaiming from storage and in addition there was serious interference with the efficient operation of the conveyor to the filler beater room. When transferring a bale from the crane to the conveyor, the entanglement of the ice-tongs would necessitate stopping the conveyor while the tongs were disengaged and the bale released.

These delays and damage to the stock have now been overcome by replacing the ice-tong grab with one of the new multiple tong grabs with "hold-open lever" attachment. The grappling hold of the new grab is instantly applied and released and without damage to the material handled. The improvement has been so marked that the speed of storing and reclaiming has been about doubled and the transfer conveyor no longer has to be stopped to be loaded. The new grab releases the bale almost the instant the bale has been swung into position and there is no need for the crane to follow the conveyor as the transfer is made.

The speeding up of handling operations by the new multiple tong grab, the general arrangement of storage points close to the unloading tracks, to permit the effective employment of hand trucks, the economical storage methods and the well planned routing of all handling have combined in this installation to effect a reduction in the cost of handling incoming stock of almost 70 per cent. Alloting such savings among these various cost reducing factors is, obviously, a baffling task, but the larger portion of the economies is attributable, unquestionably, to the doubling of the speed of piling and reclaiming by the new grappling device on the crane and to minimizing of the truck travel so as to favor the use of hand trucks.

The latter economy is more marked than might be expected, but in this particular installation it was found by actual working tests that by making the truck runs as short as possible it was possible to realize much lower handling costs per ton by the use of hand truckers than by the use of either electric trucks or tractor-trailers. This is no reflection upon the value of the electrics in unloading raw stock operations under other conditions, but is simply evidence that the conditions under which the individual handling task is performed commands careful consideration. Had the travel been longer, the electrics would, doubtless, have made better records.

Rarely are two materials handling installations identical or the problems entailed the same, making familiarity with the tools available and their service records under various conditions of the utmost importance. The following installment, consequently, can well feature these phases of the question, those of tools and records.

(To be Continued)

International Pulp & Paper Co. Formed

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., January 21, 1931—The International Pacific Pulp and Paper company is a new organization to supplant the former Multnomah Lumber and Box Company, Portland, of which Fred A. Douty is president. The latter company was formerly in the wooden box and crate business, but due to the popularity of fiber containers this kind of production was curtailed and the plant closed a few months ago, with the new idea of entering the pulp manufacturing field.

Report from financial circles indicates that the stock of the older company is being exchanged for that of the new at the rate of 7½ shares new for 1 old, and as soon as conditions develop to justify the change, a new set of incorporation articles will be filed and capitalization established that will permit of equipment purchases and other forms of expansion that will result in a pulp mill.

Properties of the Multnomah Lumber and Box company have an estimated valuation of $1,200,000.

President Willson To Talk Over Blue Network

A radio program of special interest to the paper trade will be given during the Westinghouse Salute to the Paper Industry on February 10th at 10 P.M., E.S.T., over the N. B. C. Blue Network of 38 stations.

Mr. Willson as president of the American Paper and Pulp Association, will give a four minute talk on the Development of Papermaking.

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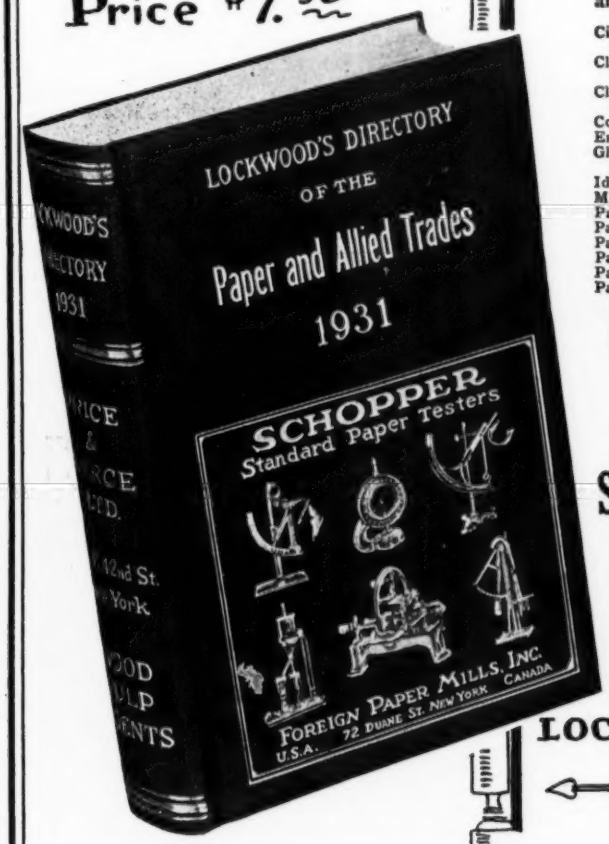

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Classified List of Pulp Mill Products
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Glazed and Coated Paper Manufacturers
Idle Mills
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Pad Manufacturers
Paper Merchants
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COMING EVENTS

American Paper and Pulp Association, fifty-fourth Convention and Meeting. Pennsylvania Hotel, February 16-19. Annual Meeting, Thursday, February 19. Annual Banquet, Grand Ball Room, Thursday, February 19.

National Paper Trade Association of the United States. Convention, Pennsylvania Hotel, February 16-18. Luncheon, Wednesday, February 18.

Technical Association of the Pulp and Paper Industry. Convention, Pennsylvania Hotel, February 17-19. Luncheon, Thursday, February 19.

Salesmen's Association of the Paper Industry. Annual Meeting Pennsylvania Hotel, Tuesday, February 17. Luncheon, Tuesday, February 17.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet. Hotel Commodore, Tuesday, February 17.

THE YEAR IN FOREIGN PAPER TRADE

The worldwide depression and lower prices were reflected in the exports of paper and paper products from the United States during the calendar year 1930, bringing about a rather heavy decrease as compared with the preceding year, which, it should be borne in mind, was an abnormal one in foreign trade, and that for that reason does not furnish an accurate basis for gauging the trend of our export trade according to the Paper Division of the Department of Commerce. Our total exports of paper and paper products in 1930 were valued at $30,301,759, as compared with $37,086,009 in 1929, or a loss of 18 per cent. However, compared with a normal year, say 1928, it is noteworthy that only a 2 per cent loss was recorded, and that with the exception of 1928, our exports of these products in 1930 reached the highest record since the worldwide depression in 1920-21.

The outstanding gain was in our exports of fiber insulating lath or board, which practically doubled, amounting to $2,008,503. Aside from this, the only other gain worthy of note was that in the exports of greaseproof and waterproof paper, which were valued at $741,557, as against $526,281 in 1929, or an increase of 40 per cent. Exports of toilet paper, paper towels and napkins, box board of paperboard and strawboard, cover paper, wrapping paper, filing folders, index cards and other office forms remained practically on a level with last year's figures.

The heaviest loss occurred in the exports of wall board of paper or pulp, which amounted to less than one-half of last year's record. Exports of surface coated paper took the next biggest backward step, being 45 per cent under those of last year, followed by newsprint, which declined from 37,390,727 pounds in 1929 to 20,408,360 pounds in 1930. While our exports of this commodity to Europe increased 70 per cent and slightly to Cuba, those to South America dropped from 14,979,796 pounds in 1929 to 4,339,588 pounds in 1930, and were 30 per cent lower to the Philippine Islands. Other losses occurred as follows (compared with 1929): papeteries and other writing paper, 30 per cent, boxes and cartons, 26 per cent, cash register and adding machine paper, vulcanized fiber sheets, strips, rods and tubes, bristol and bristol board and other paper board, each 23 per cent; wall paper and overissue and old newspapers, 20 per cent; sheating and building paper and book paper, not coated, each 15 per cent. Exports of the latter decreased 55 per cent to Australia, 33 per cent to Argentina, 28 per cent to Cuba, 20 per cent to Canada, but were slightly higher to Europe and Mexico. Envelopes and tissue paper were 13 per cent lower and paper bags and blotting paper, each 11 per cent.

In addition to paper and paper products $4,175,838 worth of paper base stocks were exported from the United States in 1930, as against $5,078,346 worth in the preceding year. Exports of pulpwood increased 172 per cent, while rags decreased 55 per cent, sulphite wood pulp 20 per cent and soda pulp 12 per cent.

Our imports of paper and paper products also decreased, but to a much lesser degree than was the case with exports, the aggregate shipments amounting to $147,439,759, which represented a loss of only 10 per cent, compared with 1929. Of this total newsprint accounted for $131,800,333, as against $141,429,736 in 1929. Our imports of this commodity from Canada decreased and increased from Europe, Newfoundland and Labrador. Imports of the remaining classes totaled $15,639,425, as against $18,971,600 in 1929. Leatherboard, test and wallboard imports increased 20 per cent and cigarette paper, cigarette books and covers 10 per cent. These represented the heaviest gains, while the most significant losses occurred in surface coated paper, which declined 38 per cent, greaseproof and waterproof papers, other wrapping papers, each 35 per cent, Kraft wrapping paper, paper board, pulp board and cardboard, each 30 per cent and paper boxes, 27 per cent.

Imports of paper base stocks in 1930 amounted to $106,921,914, as compared with $118,132,740 in 1929. Imports of pulpwoods were much heavier, amounting to $17,017,489, as against $14,598,949, as was also the case with sulphate wood pulp, bleached, whose imports rose considerably, while, on the other hand, sulphate wood pulp, unbleached (kraft), and sulphite wood pulp imports were far behind last year's record.

ACCIDENT PREVENTION

Officials of Finch, Pruyn & Co., the well known news print manufacturers of Glens Falls, N. Y., have been carrying on an extensive accident prevention campaign with the result that during the past three months there has not been a mishap causing lost time in the ranks of employees. The record for the past year shows that only three of the nine departments had accidents

serious enough to cause lost time. These were confined to the finishing department and statistics also show that the pulp mill repair workers have now gone 159 days without any mishaps and the grinders, screens and press workers 302 days. The company also reports that one crew has already made the fine record of working 1,694 days or over four years without an accident serious enough to cause lost time, this applying to the electrical department. The pulp handling department is second with 1164 days and the workers handling wood are third with 851 consecutive days. Other departments participating in accident prevention work include the boiler house with 596 days, paper machines and beaters 446 days and the repair department with 434 days without a mishap.

Samuel Pruyn, superintendent of accident prevention, claims that not a single accident causing permanent disability has occured during the past year and records show that the employees are exerting themselves in order to prevent accidents. It is his contention that most accidents are caused by careless handling of materials and not by the operation of machinery. He claims that the machines are operated by intelligent men who realize the danger of carelessness and consequently know how to guard themselves against accidents. The fine record of the machine department is ample proof of his statements.

The company has been entered in the accident prevention contest being sponsored by the National Safety Council and prizes are to be awarded the winners. Despite the fact that the firm has made an exceptionally good record in previous campaigns it has not been sufficient to win it first place in the contest but this year the workers are out to beat all competitors.

Insulating Values of Fibrous Materials

The Bureau of Standards Research Paper No. 243, "Mechanism of Heat Flow in Fibrous Materials," should be of particular interest to manufacturers of insulating boards and other insulating products made from vegetable fibers, as a wide variety of such products were included in the investigation reported. The investigation was made in the heat transfer section of the bureau. Following is an abstract of the article, which was published in full in the November, 1930, issue of the bureau Journal of Research:

"A systematic investigation of the thermal conductivities of specimens composed of fibrous materials has been made. The experiments were designed to show the efforts of such factors as density of packing, arrangement of fibers, kind and size of fibers, moisture content, air convection, and radiation, on the resultant conductivity of the specimens. Data on various mixtures of fibers were obtained, and it was found that in most cases the conductivity of the mixture lies between those of the constituents, taking the conductivity of each constituent which corresponds to a density equal to the density of the mixture.

"It was found that for a given fibrous material and a given density, the conductivity may vary by several hundred per cent, depending entirely on the arrangement of the fibers. The maximum conductivity is obtained when the fibers are parallel to and the minimum conductivity when the fibers are perpendicular to the direction of heat flow. There is included a discussion of the part which contact resistance between the fibers may play in the over-all heat transfer.

"At very low densities it was found that radiation plays an important part in the heat transfer; air convection plays a very minor part."

Separate copies of this article are available for purchase from the Superintendent of Documents, Washington, D. C.

Box Board Production for October

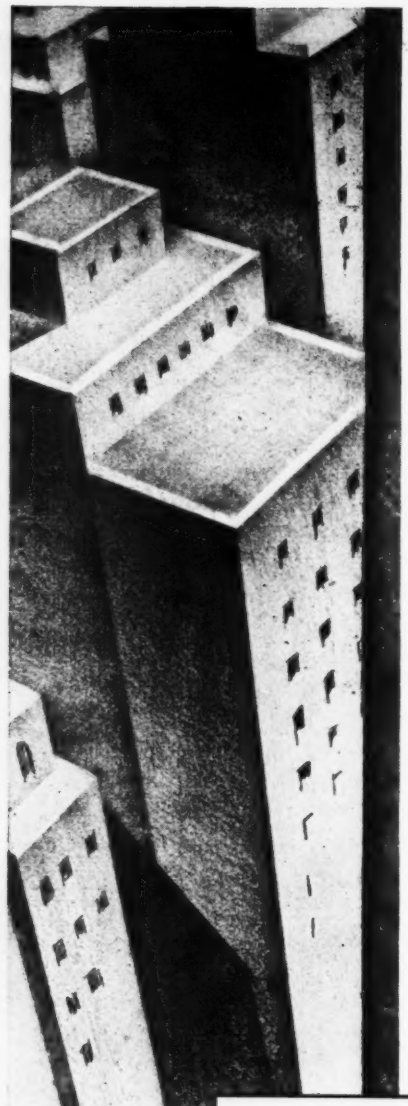
WASHINGTON, D. C., February 2, 1931.—Monthly statistics, covering the period from January 1, 1929, to October 31, 1930, inclusive, on production, shipments, etc., of box board, based on reports submitted to the Bureau of the Census by 97 establishments operating 130 plants, are presented in the following table. The capacity data shown below vary according to the normal number of working days in each month.

Year and Month	Operation			Production				Unfilled Orders (end of month)
	Inch hours		Per cent of Capacity	Short Tons		Per cent of Capacity	New Orders	
	Capacity	Operated		Capacity	Output		Short Tons	
1929								
Jan.	12,166,180	9,548,914	78.5	332,202	255,795	77.0	246,126	89,643
Feb.	11,230,320	8,661,380	77.1	306,648	233,103	76.0	233,577	89,936
March	12,188,644	9,641,580	79.1	333,424	263,252	79.0	271,118	98,016
April	12,188,644	9,495,901	77.9	333,424	256,486	76.9	254,216	99,610
May	12,188,644	9,641,050	79.1	333,424	266,484	79.9	252,122	88,048
June	11,719,850	9,012,771	76.9	320,600	233,164	72.7	221,429	73,330
July	12,188,644	9,227,606	75.7	333,424	242,265	72.7	245,457	76,091
Aug.	12,657,438	9,805,677	77.5	346,248	265,063	76.6	269,951	80,634
Sept.	11,251,056	8,745,015	77.7	307,776	242,032	78.6	251,189	85,866
Oct.	12,657,438	9,707,460	76.7	346,248	269,611	77.9	269,300	84,237
Total (10 Mos.)	120,436,858	93,487,354	77.6	3,293,418	2,527,255	76.7	2,514,485	.....
Nov.	11,681,450	8,689,622	74.4	320,175	241,780	75.5	219,635	66,125
Dec.	11,681,450	6,843,974	58.6	320,175	182,699	57.1	175,090	58,612
Total (Year)	143,799,758	109,020,950	75.8	3,933,768	2,951,734	75.0	2,909,210	.....
1930								
Jan.	11,691,264	8,772,273	75.0	329,628	236,344	71.7	243,612	69,940
Feb.	10,888,704	8,971,760	82.4	306,432	220,014	71.8	213,181	62,134
March	11,796,096	8,643,344	73.3	331,968	229,979	69.3	225,782	58,591
April	11,796,096	8,580,845	72.7	331,968	245,167	73.9	249,735	66,868
May	11,796,096	8,377,741	71.0	331,968	239,186	72.1	234,448	63,237
June	11,342,400	7,841,532	69.1	319,200	221,525	69.4	220,965	58,866
July	11,796,096	7,892,964	66.9	331,968	222,788	67.1	230,380	65,819
Aug.	11,796,096	8,029,756	68.1	331,968	224,391	67.6	221,840	63,518
Sept.	11,342,400	7,907,075	69.7	319,200	226,147	70.8	225,952	61,869
Oct.	12,249,792	8,363,892	68.3	344,736	253,717	73.6	243,978	55,699
Total (10 Mos.)	116,495,040	83,381,182	71.6	3,279,036	2,319,258	70.7	2,309,873	.....

Year and Month	Shipments of boxboard	Stocks of boxboard, end of month	Consumption of waste paper		Per cent of Capacity	Stocks of waste paper end of month	
			Capacity	Consumed		At plants	In transit and unshipped purchases
	Short Tons		Short Tons			Short Tons	
1929							
January	251,812	61,721	317,980	243,404	76.5	141,339	49,115
February	233,284	61,540	293,520	222,019	75.6	130,890	54,132
March	263,038	61,754	319,046	246,660	77.3	142,026	51,531
April	252,622	65,618	319,046	236,150	74.0	147,427	67,736
May	263,684	68,418	319,046	249,880	78.3	150,250	53,157
June	236,147	65,435	306,775	232,060	75.6	156,352	55,543
July	242,696	65,004	319,046	214,574	67.3	170,745	62,967
August	265,408	64,659	331,317	256,339	77.4	171,218	59,480
September	245,957	60,734	294,504	231,029	78.4	175,279	87,700
October	270,929	59,416	331,317	254,163	76.7	186,806	70,020
(10 Mos.)	2,525,577	.....	3,151,597	2,386,278	75.7	.....	.....
November	237,747	63,449	306,725	230,046	75.0	193,534	51,650
December	182,603	63,545	306,725	172,336	56.2	197,841	49,012
Total (Year)	2,945,927	.....	3,765,047	2,788,660	74.1	.....	.....
1930							
January	232,284	67,605	318,786	223,288	70.0	180,055	54,142
February	220,987	65,632	296,429	216,717	73.1	179,497	54,577
March	229,325	67,286	321,126	229,909	71.6	192,957	54,629
April	241,458	70,995	321,126	230,993	71.9	181,125	51,950
May	238,079	72,102	321,126	232,581	72.4	185,972	34,919
June	225,336	68,291	308,775	210,793	68.3	184,451	38,241
July	223,427	67,652	321,126	207,596	64.6	175,645	43,393
August	224,141	67,902	321,126	215,879	67.2	187,508	36,108
September	227,601	66,448	308,775	221,071	71.6	165,499	45,960
October	250,148	70,017	333,477	227,088	68.1	177,486	34,910
Total (10 Mos.)	2,312,786	.....	3,171,872	2,215,915	69.9	.....	.....

Paper Mill Worker Injured

DEFERIET, N. Y., January 31, 1931—John Hayes, assistant master mechanic at the mill of the St. Regis Paper Company, suffered fractures of the pelvis and right collar bone this week while performing his duties and he is now confined to the Watertown City Hospital. The accident occured when he was overhauling a large flat paper screen plate. The screen was placed directly above him and in some manner the props became loosened allowing the full weight of several hundred pounds to drop on him. Men working near him rushed to his aid and after treatment by the company physician it was deemed advisable to rush him to the hospital. He is expected to recover.



A Structure can be no stronger than its FOUNDATIONS

By CARL R. MILLER

No. 6 in a series of advertisements describing the position of The Mathieson Alkali Works in the chemical industry

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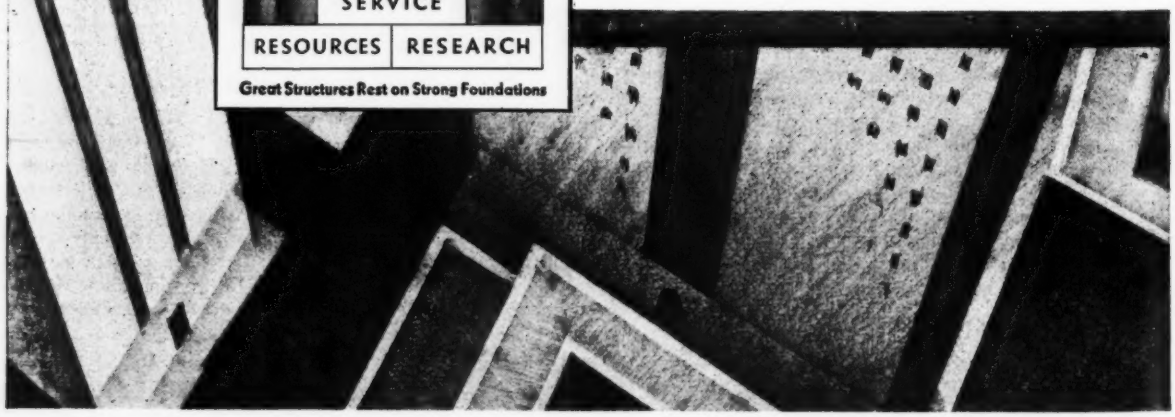

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Steam and Power Plant Location Factors*

By John F. Rhoades[1]

TAPPI Annual Meeting Engineering Forum

The papers published in this issue of the Technical Section entitled "Steam and Power Plant Location Factors" and "Reclamation and Salvage of Flue Heat" are two of the papers to be submitted to the proposed open forum of the Heat and Power Committee of the Technical Association of the Pulp and Paper Industry. Since both papers deal with controversial issues they are published at this time to allow individuals planning to attend the meetings at the Hotel Pennsylvania, on February 17 to 19, 1931, sufficient time to prepare data. Anyone not planning to attend but wishing to present written discussion may do so and should send such material to R. G. Macdonald, secretary of the Technical Association at 370 Lexington Avenue, New York, N. Y.

The subject of this paper was chosen for an open forum meeting of the Heat and Power Committee, Engineering Division of the TAPPI.

Its object is mainly to correlate, by discussion, the facts that will govern the engineering problems and costs for the production of steam and power. Further, that the problems are not similar at different locations, even for exactly the same type, highly efficient plant. Therefore, those intrusted with the responsibility of development, have not only the choice of efficient equipment, as available and its efficient operation, but it must combine with the general project, process and be capable of continuity of operation. The final unit costs being the deciding factor which may govern the success of the entire project, as the cost of steam and power may equal as much as 30 to 60 per cent of the product to be manufactured.

Power plants of many industries, including the paper industry, occupy an enviable position, in that they can produce their own power even with low pressure steam in connection with process steam at a much better price than they could by purchasing power and producing the necessary process steam. Its continuity of operation in the latter case could, however, be affected, in which case it could hardly be charged to their power costs.

The last few year's experiences with 1300 pound pressure steam plants quoted in the N. E. L. A. reports indicate a possible improvement to approximately 15,600 B.t.u. per kw hour net average in one case, which could be reduced providing a higher load factor could be maintained, whereas the modern paper mill power plant with good process steam ratio can obtain as low as 12,000 to 14,000 B.t.u. per kw hour, even with steam pressures of 250 pounds to 450 pounds. This does not disparage in the least the highly modernized utility power plants which are monuments to engineering progress, and are ready to serve the public and industries.

Large mergers, improvements in line transmission, and protection have done much towards stabilizing their load factor and costs. Mergers once thought to be detrimental to progress, will in the future be a factor to further progress if properly controlled. In fact, engineering research will, in the future, develop power at the mines, distribute power over large areas, eliminating coal shipments, converting electricity directly to steam for process, doing away with smoke nuisance in our cities and on our railroads, carrying coal for this purpose.

To further consider our problems in the paper industry, let us consider some of the factors to be found, in say three locations. 1—Raw material (coal, oil, gas), 2—Water power, 3—Purchased power, 4—Electric power, 5—Labor costs, 6—Building costs, 7—Water for boilers and condensers, 8—Steam pressures to be considered, 9—Power and steam demands, 10—Waste that must be disposed of as fuel, 11—Recovery plant associated with steam plant, 12—Relative size of power investment as to process investment, 13—Overhead, 14—Interest and depreciation.

The location of "A" will be assumed as being in the northern part of our country.

1—Raw material, coal, would be considered as obtainable but higher than at other locations. Oil or gas not considered.

2—Water power available and considered.

3—Purchased power possibility as against own investment.

4—Electric boilers would possibly be a consideration, as a conversion factor, from water power to steam requirements, if cheaper than coal, and when water power is in excess when needed.

5—Labor costs lower. Dependable and lower turnover.

6—Building costs higher due to climate.

7—Water for boilers satisfactory. Water for condensers satisfactory.

8—Steam Pressures. As high as could be used considering high fuel costs and steam balance.

9—Power and steam demands. This would possibly determine the relative size of the plant, or auxiliary equipment, such as steam accumulators, process steam and otherwise.

10—Possibility of utilization of waste fuel, as part of steam plant.

11—Interconnection of recovery systems as a tie in with steam power balance.

12—Total overall consideration of steam and power plant investment to determine final cost of steam and power.

13—Overhead cost will be higher due to larger investment.

14—Interest and depreciation possibly higher due to location.

The location of "B" will be assumed as being in the middle section of our country.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 17-19, 1931.
Contribution of the Heat and Power Committee.

[1] Member TAPPI, chief engineer, Mead Corporation, Chillicothe, Ohio.

1—Raw material coal would be considered as obtainable at lower costs, but with possible competition with oil or gas.

2—Possibility of some water power but not considered as a plant factor due to high investments.

3—Tie in with purchased power a possibility but due to process steam requirements power is a by-product for project considered and combination of steam and power would be the answer.

4—Electric boilers would not be necessary of consideration unless water power was also a consideration.

5—Labor costs somewhat higher and larger turnover expected.

6—Building costs slightly lower.

7—Water for boilers questionable. Since it requires treatment it may effect somewhat the question of considering type of steam plant. Condensing water would possibly require spray pond or cooling towers.

8—Pressure to be used questionable until water question has been satisfactorily taken care of.

9—Power and steam demands of such a nature as not necessary to consider accumulators or other balance factors.

10—Being largely a conversion plant no waste fuel problem is involved.

11—No recovery problem tied in with steam plant.

12—Total overall consideration of steam and power plant investment to determine final cost of steam and power.

13—Overhead normal.

14—Interest and depreciation normal

The location of "C" will be assumed as being in the southern section of our country.

1—Raw material coal would be considered as competitive with oil and gas.

2—Water power not considered.

3—Possibility of purchased power as steam requirements are moderately small as compared with total plant problem.

4—Electric boilers not considered.

5—Labor costs moderate but not as dependable.

6—Building costs lower.

7—Water for boilers satisfactory. Condensing water would possibly require spray pond or cooling towers.

8—Pressures to be used considered in connection with return on lower investment.

9—Power and steam demands low in connection with other projects.

10—Waste fuel a factor for steam and power generation.

11—Recovery plant factor in steam and power plant consideration.

12—Total overall consideration of steam and power plant investment to determine final cost of steam and power.

13—Overhead normal.

14—Interest and depreciation normal.

Reclamation and Salvage of Flue Heat*

By Reginald Trautschold[1]

The reclamation of flue heat is no new problem, but it is one which has assumed great importance during the past decade. In fact, provisions for salvaging all possible heat from the gases of combustion leaving the boiler furnace become more and more necessary as the steam pressure and rates of evaporation are elevated. This, for the very obvious reason that the higher the pressure and temperature of the steam generated the greater must be the temperature of the gases issuing from the boiler furnace.

The boiler absorbs as large a proportion of the heat liberated in the combustion chamber by the burning of the fuel as possible, of course, and the superheater entraps additional heat, but the temperature of the gases leaving the boiler must still be considerably above that attained by the steam. Operating boilers at high ratings also serves to elevate the temperature of the flue gases. Naturally, the modern boiler is more efficient as a steam generator than the boilers of the old days, but it is also operated at considerably higher steam pressure and at ratings which would have been far beyond anything which could have been attempted in the days of 100 and 125 pound steam.

The temperature of saturated steam at even 150 pounds gauge is a matter of only 366 deg. F. Compare this with a temperature of 615 degrees for saturated steam at an absolute pressure of 1,800 pounds per square inch, or even to 567.6 degrees at 1,200 pounds, 486.6 at 600 pounds or 417.5 at 300 pounds per square inch, and it is very apparent that the reclamation and salvage of flue heat is a more serious undertaking than in the old days of low steam pressures, even without the complication of several hundred degrees of superheat which may be added to the steam. The flue gases must issue from the boiler furnace at a considerably higher temperature in every case. In other words, a temperature differential between the generated steam and the gases leaving the boiler must exist and the more rapidly the steam is generated the greater must be this differential.

No paper mill can afford to burn coal or other fuel and allow the gases of combustion to escape up the stack at a temperature of 600 or 700 degrees, perhaps even higher, yet this is exactly what would occur were not provisions made for the reclamation and salvage of flue heat. Economizers or air heaters, one or both, are almost as essential today as the steam boiler itself and must be provided. This is generally conceded, but since there is only a certain amount of heat which can be reclaimed and profitably utilized in any case, what is the best procedure, or failing agreement on this highly important question, what are the conditions which should govern the advisable employment of fuel economizers and of air preheaters?

It would seem quite logical and justified to imagine that during the many years steam has been generated for power and process requirements that some knowledge has been acquired which would throw some light upon the question of economical flue heat reclamation and salvage. Surely conditions are not such as make it necessary to muddle along and experiment with each new high pressure steam installation. The paper making industry has taken the lead among the industries in building modern, high-pressure steam plants, but in so doing there also appears to have been a good deal of vacillation in respect to the methods employed in flue heat salvage.

Air Preheaters Predominate

A survey of practices in a large proportion of the so-called high pressure steam plants, *i.e.*, power plants generating steam at pressures in excess of 300 pounds per square inch, built by pulp and paper mills between 1923 and 1929 disclosed the fact that in:

23.4 per cent, both fuel economizers and air heaters are employed,

36.3 per cent, air heaters and no economizers are employed,

13.8 per cent, fuel economizers and no air heaters are employed,

26.5 per cent, neither fuel economizers nor air heaters are used.

That is to say, in virtually 60 per cent of these particular pulp and paper mill power plants air heaters are employed, either alone or in combination with fuel economizers. Among the balance, almost twice as many use no such heat reclaiming devices as employ only fuel economizers.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 17-19, 1931. Contribution of the Heat and Power Committee.

[1] Member TAPPI, Power Engineering Consultant, Paper Trade Journal, 10 East 39th Street, New York, N. Y.

This would look very much like a definite trend in which air preheaters outnumber fuel economizers about 3 to 2, but in a group of a dozen power plants even more recently erected, fuel economizers were provided in every case and in only four of the plants are air preheaters installed. This flatly contradicts what would appear to be the findings of the earlier survey on plants in operation only a few years. It confirms, however, the experience of a leading manufacturer of fuel economizers who states that the movement toward high pressure boilers with air heaters assumed such proportions during 1920 to 1924, the years from his point of view would about coincide with the period of plant building of 1926 to 1929, that the very existence of economizers in any form seemed jeopardized. About a year ago, the same manufacturer reported that the movement seemed to be in the opposite direction and that economizers of considerably larger service are being used to bring the water to the steaming point and then using comparatively small high-pressure boilers to do the work of actual evaporation.

So far as the effectiveness in flue heat salvage is concerned, there is very little to choose between the fuel economizer and the air preheater systems of heat reclamation, it being quite feasible in either case to lower the temperature of the exhaust gases from 600 or 700 degrees to 300 degrees or even lower, cutting stack losses of 15 or 16 per cent down to 5 or 6 per cent of the total heat liberated in the boiler furnace. In one case, the recaptured heat has customarily been returned to the boiler by elevating the temperature of the feed water supply and in the other the activity of the furnace has been stimulated by supplying the combustion air at an elevated temperature. Either system can make effective use of about 70 per cent of the flue heat which would otherwise be lost. Both systems may be used in combination, the air heater supplementing the fuel economizer, as promised to become quite general a few years ago, but being very much on a par so far as effectiveness in heat reclamation is concerned and the amount of reclaimable heat being no greater when either one or both systems are employed, the advantage of combining the two in a single installation lies, not in securing larger heat reclaiming capacity, but rather in connection with the nature of the services for which the reclaimed heat is utilized.

Methods of Flue Heat Reclamation

As a result, two general methods of flue heat reclamation have been developed, one might almost say two schools of heat salvage. One anticipates the bleeding of the main turbine at several points and utilizing the heat extracted to raise the temperature of the feed water supply to as high as 350 deg. F. A portion of the heat in the gases leaving the boiler furnace is then reclaimed by the aid of a comparatively small fuel economizer, one having about 30 per cent as much heating surface as the boiler, and this heat added to the boiler feed water. The still high temperature flue gases are then to be passed through an air heater having about 50 per cent of the boiler heating surface and a supply of heated combustion air secured for the stimulation of furnace activity. This is what may be termed the combustion system of flue heat reclamation, although sometimes the economizer is omitted in this suggested method of heat salvage and the heat reclamation effected solely by an air heater with as much as 100 per cent of the boiler heating surface.

The theoretical efficiency obtained by this method is high and it is favored also by the mechanical advantage of unloading the lower stages of the turbine. The scheme requires, however, three or four feed water heaters, each operated at a different steam pressure, and a complicated system of piping to and from these. Also, it is sometimes difficult to provide suitable space in the boiler room for the air ducts from the air heater to the furnace. Nevertheless, this general method, or school, of flue heat salvage was the one apparently in higher favor a few years ago.

The other of the general methods advanced for economical flue heat reclamation is to heat the feed water up to 150 or 212 degrees by a single stage of turbine bleeding or by exhaust steam and then to raise the temperature of this heated water by an economizer containing from 60 to 80 per cent as much heating surface as the boiler. The theoretical efficiency of this straight economizer method may not be quite so high as in the other method, but in practice the straight economizer system has been found to give somewhat better results, because of the greater simplicity of the apparatus required and its ability to function affectively under conditions of fluctuating load. Only one bleeding heater is required and the principal heat added to the feed water is salvaged from the hot flue gases. This latter may be a decided advantage, for in the regular operation of a plant, overloads on individual boilers do not necessarily coincide with the load on the main turbine, with the result that the heat balance may be seriously disturbed by heating the boiler water with the steam from this turbine.

The requirements for preheated air may be met, with this method of economizer heat reclamation, from other heat sources. In fact, it is claimed that the highest attainable efficiency may be obtained by employing stages of turbine bleeding for heating the combustion air supply. When this is practiced, the air heaters may be placed directly below the boiler furnaces or in other convenient and unobstructive location, permitting a simple duct arrangement.

In actual practice, these recommendations, particularly in so far as they pertain to the combination and straight air heater system of flue reclamation, appear to be looked upon as extremely elastic. For instance, instead of the combination of a small economizer with 30 per cent. of the boiler heating surface and an air heater with 50 per cent of such heating area being employed, economizers have been installed containing anywhere from about 20 to 70 per cent of the boiler heating surface and with air heaters having, instead of about 50 per cent of the boiler surface, from 75 to 350 per cent. The average for the combination system seems to have been an economizer with approximately 45 per cent more area than recommended and an air heater with a third more heating surface than the boiler. In the case of the straight economizer installations, while there has also been some departure from the recommendations of 60 to 80 per cent of the heating area of the boiler, the differences have not been so marked. The average of straight economizer installations appears to have contained about 56.3 per cent as much heating area as the boiler, with 81.3 maximum and 31.2 per cent minimum.

Combination System Effective

In one new boiler plant where steam is generated at a working pressure of 425 pounds per square inch and carries 270 degrees of superheat, the gases after leaving the boiler at close to 600 deg. F. pass through an economizer and give up 171 degrees of heat, elevating the temperature of the feed water supply 70 degrees. The flue gases then pass through a sectional type air heater and their temperature is reduced 135 degrees more, preheating the combustion air to a temperature of 294 degrees. The boiler feed water leaves the economizer at a temperature of some 281 degrees, the addition of the heat during its passage through the heat reclaimer being sufficient to elevate the efficiency of the steam generator approximately 6 per cent. The preheating of the combustion air likewise elevates the efficiency of the boiler unit substantially 6 per cent, so the effect of the combination system of heat reclamation is responsible for raising the efficiency of the boiler plant about 12 per cent through the complete salvage cycle. This is an excellent showing, of course, and obviously the use of both varieties of heat reclaimers proves eminently satisfactory in this particular plant. Nevertheless, the possibilities afforded of using either a straight air heater or a straight economizer system of flue heat reclamation under the existing conditions is well worthy of consideration.

Air Preheater Limitations

In connection with a straight air preheater system for the recovery of flue heat, very definite limitations are imposed. In the

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combination system installed, the air for combustion attains a temperature of 294 degrees after the flue gases have relinquished a considerable portion of their heat to the water passing through the fuel economizer located in advance of the air heater. Doing away with the economizer and making this proportion of the total flue heat available for service in the air heater, however, could not materially increase the temperature of the combustion air, which enters the air preheater at a temperature of about 80 degrees, since the temperature of the hot flue gases leaving the boiler is a matter of only 590 degrees. The temperature differential, the difference between the temperatures of the air and the gases entering the preheater, is not sufficient to elevate the temperature of the air much above 300 degrees, if at all. Of course, doing away with the fuel economizer would enable a considerably larger volume of preheated air to be secured, but its temperature would be little or no higher than is attained with the economizer functioning. This would be of no particular advantage so far as increasing the efficiency of the plant and would mean the sacrifice of the benefit realized through heating the feed water in the economizer. The net result would be that the plant efficiency would be increased by the reclamation and salvage of flue heat little more than 6 per cent, an actual reduction, as compared with the attainment with both the smaller economizer and air preheater in service, of close to 50 per cent.

Economizer Possibilities

The other alternative, a straight economizer installation, presents a very different situation, for if the flue gas temperature could be reduced to 294 degrees, as it is in the combination system, by an economizer of adequate and suitable proportions, the temperature of the feed water could be elevated by approximately 125 degrees, as against 70 degrees with the double system. Such an elevation would have the effect of increasing the boiler plant efficiency some 11 or 12 per cent. This would indicate that a straight economizer installation is just about as efficacious as the combination system in making use of the flue heat and almost twice as efficient as a straight air heater system in this particular plant. Also, it would probably be the cheaper to install and to operate.

Of course, these are only computations based upon the conditions as they have been found to exist in one plant and unforeseen limitations might arise which would discount some of the apparently greater efficiency of the straight economizer system of flue heat reclamation. However, the possibilities seemingly afforded by the straight economizer installation appear to be decidedly better than those to be expected from a straight air heater system and might even be better than those taken advantage of by the existing combination system of flue heat salvage.

That such depiction is substantially accurate and of quite general application would seem to be substantiated by the present marked omission of air preheaters in some of the most up-to-date power plants and the pronounced movement toward the use of fuel economizers of considerably larger surface to bring the feed water close to the steaming point at the boiler pressure and the use of comparatively small high pressure boilers merely to effect the actual evaporation of the water. Unquestionably, a good deal of advance has been made in this direction and this makes the individual experiences of mills with both simple and combination systems of flue heat reclamation and salvage of most pertinent and timely interest.

Should Be a Real Contribution

A frank discussion of the entire question by mill engineers in an open forum should be a real contribution, consequently, of wide spread benefit to the pulp and paper industry. Members of the Technical Association can well concern themselves with such a debate and if this is done, ways of saving considerable money for the mills should become apparent. An approach to some standardization in flue heat salvage practices is certainly much more to be desired than the vacillations of recent years.

Crane Co. Joins Technical Association

In further celebration of its seventy-fifth anniversary the Crane Company, one of the largest manufacturers of valves, fittings, fabricated pipe, heating and plumbing materials has become a member of the Technical Association of the Pulp and Paper Industry and will be represented in the association by T. H. Ireland, who is one of the best known men calling on paper mills.

In 1855 the business was founded by R. T. Crane who built the first pipe mill west of Pittsburgh. By 1865 the number of employees increased from 3 to 200. By 1875 he had built the first malleable iron foundry west of Pittsburgh and employment was given to 1,200. In 1886 the name Crane Company was adopted and the first branch house was established and by 1895 there were 2,500 employees. By 1905 the Bridgeport Division was established and new works were built there. A new factory and office building were erected in Chicago and the number of employees was 7,000. Today the employees exceed 20,000.

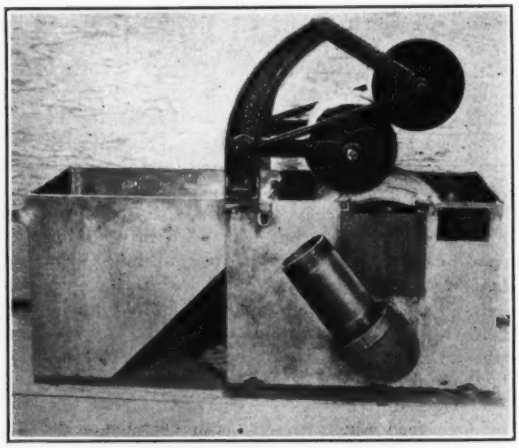
In celebration of its seventy-fifth anniversary 210,000 copies of Crane Company's official organ "The Valve World" have been issued. This required about 50 tons of paper.

Crane Company owns and occupies in its business a total land area of 1,237 acres. The total floor space of all Crane buildings is 306 acres. The total frontage of all Crane buildings is 14 miles and a total tonnage of 200,235 tons are shipped annually. In addition to its many metal plants there is also the well known Trenton Potteries at Trenton, N. J. and the Canadian Potteries, Ltd. at St. Johns, P. Q., where sanitary pottery is made. One out of every four employees in the Crane organization is a stockholder in the company, owns his own home, and has been with the company for from ten to fifty-nine years.

T. H. Ireland, the company's representative in the Technical Association has attended nearly all of the association meetings for several years, and at the 1928 fall meeting at Wausau, Wisconsin, he read a paper entitled, "Piping Materials in the Paper Industry," which was published in the Paper Trade Journal issue of October 4, 1928. The Technical Association is glad to welcome Crane Company to its membership.

Laboratory Wet Machine

The Downingtown Manufacturing Company of Downingtown, Pa., a company member of the Technical Association, has recently



Wet Machine for Making Sample Pulp Laps

built a laboratory size wet machine for making sample pulp laps. There has been an evident need by TAPPI members for a machine such as this and the Downingtown Manufacturing Company and Jacob Edge in particular, are to be commended for interest in being of special service to the paper mill engineers.

United States Patents On Paper Making

Fourth Quarter, 1930

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography.

Note:—Copies of any of the following patents may be obtained from the U. S. Patent Office, Washington, D. C., at ten cents (in currency) each.

OCTOBER 7, 1930.

1,777,281. Pulp-molding machine. Merle P. Chaplin, assignor to Fidelity Trust Company, Portland, Me. Filed June 20, 1929. 10 claims. (Cl. 92-56).

1,777,285. Cylinder for forming cartons, etc. Frank W. Adsit, assignor to Rotary Carton Machine Company, Minneapolis, Minn. Filed Apr. 11, 1929. 5 claims. (Cl. 93-58).

1,777,447. Waterproofing fibrous product and process of producing the same. Frederick Queck, Monroe, Mich. Filed Sept. 3, 1929. 3 claims. (Cl. 91-68).

1,777,710. Method for producing low-density pulp. Leon W. Babcock, assignor to Hercules Powder Company, Wilmington, Del. Filed Sept. 4, 1926. 10 claims. (Cl. 92-1).

1,777,751. Producing cellulose. Arthur Franz, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Feb. 16, 1928. 8 claims. (Cl. 92-9). A chlorate in the presence of a mineral acid is used.

1,777,872. Plaster board. Haughton Brown, Rockford, Ill., assignor of one-half to Jesse A. Barloga, Rockford, Ill. Filed Mar. 8, 1928. 4 claims. (Cl. 72-124).

OCTOBER 14, 1930

1,778,008. Plaster board. John H. Delaney, assignor to Ada W. Delaney, Los Angeles, Calif. Filed Aug. 10, 1929. 15 claims. (Cl. 154-45.9).

1,778,095. Sheet-conveying apparatus. Charles A. Upson, assignor to The Upson Company, Lockport, N. Y. Filed Sept. 6, 1928. 2 claims. (Cl. 198-84).

1,778,145. Plaster board. Harry A. Cumfer, Chicago, Ill., assignor of one-half to Willard J. Mason, Greenwich, Conn. Filed Mar. 15, 1926. 3 claims. (Cl. 72-116).

1,778,147. Manufacture of fiber board. Earl S. Edwards, assignor to Panelyte Corporation, Trenton, N. J. Filed May 16, 1926. 16 claims. (Cl. 92-21).

1,778,199. Manufacture of pulp. John Neumann, Chicago, Ill. Filed June 14, 1926. Renewed Jan. 4, 1930. 7 claims. (Cl. 92-9). Use of a sodium silicate and sodium sulphide in solution.

1,778,523. Method for recovery of rosin soap material from spent wood liquors. Viggo Drewsen, assignor to West Virginia Pulp and Paper Company, New York, N. Y. Filed Jan. 11, 1928. 6 claims. (Cl. 87-16).

1,778,650. Paper-making machinery. Harry N. Weir, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed June 10, 1929. 3 claims. (Cl. 92-27).

OCTOBER 21, 1930

1,778,710. Beater roll. Albert J. Allison, assignor to Simonds Worden White Company, Dayton, Ohio. Filed Jan. 21, 1928. 24 claims. (Cl. 92-22).

1,778,733. Saturating apparatus. Hilding A. Sjodahl, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Sept. 5, 1928. 6 claims. (Cl. 91-68).

1,778,934. Method of and machine for making pulp articles. Ralph W. Chapman, assignor to Chapman Fibre Company, Inc., Old Towne, Me. Filed Nov. 20, 1926. 24 claims. (Cl. 92-59).

1,778,964. Waterproofing composition. Charles S. Shelton, Seattle, Wash. Filed Apr. 18, 1925. 2 claims. (Cl. 134-13).

1,779,045. Wall board. Somerled Joseph McDonald, assignor to International Fibre Board, Limited, Montreal, Quebec, Canada. Filed Dec. 21, 1928. 2 claims. (Cl. 72-124).

1,779,087. Paper-making machine. Edward J. Crowson, Fitchburg, Mass. Filed Sept. 10, 1928. 17 claims. (Cl. 92-44). Fourdrinier machine.

1,779,175. Roofing and process of making the same. Lowell F. Lindley, Chicago, Ill. Filed Apr. 12, 1926. Renewed Mar. 2, 1928. 16 claims. (Cl. 91-68).

1,779,226. Treatment of black liquor. Linn Bradley and Edward P. McKeefe, assignors to Bradley-McKeefe Corporation, New York, N. Y. Filed Jan. 3, 1921. Renewed July 5, 1928. 25 claims. (Cl. 23-49).

1,779,274. Hypochlorite bleaching composition. Lloyd T. Howells, assignor to The Electric Smelting and Aluminum Company, Cleveland, Ohio. Filed July 24, 1928. 12 claims. (Cl. 8-2).

1,779,283. Circulation system for pulp digesters. Einar Morterud, Torderod, near Moss, Norway. Filed Nov. 14, 1928. 2 claims. (Cl. 92-7).

OCTOBER 28, 1930

1,779,532. Fiber board and process of manufacturing fiber board. Roger W. Cutler and Joseph R. Coolidge, 3d, assignors to Montan, Inc., Boston, Mass. Filed May 27, 1927. 3 claims. (Cl. 91-70).

1,779,535. Process of treating black liquors. Edward G. Goodell, Stevens Point, Wis. Filed Dec. 31, 1928. 8 claims. (Cl. 23-48).

1,779,536. Method of dehydrating black liquor. Edward G. Goodell, Stevens Point, Wis. Filed Apr. 1, 1929. 1 claim. (Cl. 23-134).

1,779,537. Process of regenerating black liquor. Edward G. Goodell, Stevens Point, Wis. Filed Apr. 1, 1929. 1 claim. (Cl. 23-48).

1,779,562. Machine for rewinding paper. Lino Scusa, Phoenix, N. Y. Filed Apr. 11, 1929. 4 claims. (Cl. 164-65).

1,779,568. Barking drum. John Strindlund, Tofte, Norway. Filed July 16, 1928. 6 claims. (Cl. 144-208).

1,779,578. Method of forming paper rolls. Clarence B. Andersen, Menasha, Wis. Filed Oct. 24, 1929. 3 claims. (Cl. 245-55).

1,779,768. Method of processing black liquor and product derived therefrom. Edward G. Goodell, Stevens Point, Wis. Filed Oct. 26, 1929. 4 claims. (Cl. 23-137).

1,779,772. Paper product and its manufacture. Ernest Hopkinsson, asignor to The Mechanical Rubber Company, Cleveland, Ohio. Filed May 27, 1924. 8 claims. (Cl. 92-40).

1,779,971. Method of preparing cellulose pulp. Harry L. Horn, assignor to Bagasse Development Inc., New York, N. Y. Filed Nov. 30, 1929. 8 claims. (Cl. 92-7).

1,780,007. Process of paper marking. Harold W. A. Dixon, assignor to Columbia Ribbon and Carbon Manufacturing Company, Inc., New York, N. Y. Filed May 7, 1927. 4 claims. (Cl. 282-28).

NOVEMBER 4, 1930

R17,584. Transparent-paper machine. Edouard M. Kratz, assignor to Marsene Products Co., Chicago, Ill. Filed Apr. 29, 1929. Original No. 1,650,585, dated Nov. 22, 1927. 18 claims. (Cl. 18-15).

1,780,347. Process of manufacturing alpha cellulose. Lauri I, L. Durchman, Petersburg, Va. Filed May 8, 1929. 4 claims. (Cl. 92-11).

1,780,391. Backing for stencil sheets. Shinjiro Horii, Tokyo, Japan. Filed Feb. 21, 1928. 2 claims. (Cl. 41-3.5).

1,780,526. Shock-absorbing cushioning paper and method of making same. John E. Kieffer, assignor to Kieffer Paper Mills, Ewing, Ind. Filed Dec. 27, 1927. 1 claim. (Cl. 92-49).

1,780,539. Process of treating fiber of non-coniferous origin. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Mar. 11, 1927. 11 claims. (Cl. 92-13).

1,780,616. Colored and tinted parchment paper and the like and process for the manufacture of the same. Robert Irving Cowen, New York, N. Y. Filed Nov. 11, 1925. 13 claims. (Cl. 8-5).

1,780,623. Process for manufacturing building material of varying densities. Emil C. Loetscher, Lubuque, Iowa. Filed July 26, 1929. 6 claims. (Cl. 92-54).

1,780,638. Production of paper pulp. Robert B. Wolf, New York, N. Y. Filed Dec. 23, 1929. 20 claims. (Cl. 92-11). Recovery of acid in sulphite process.

1,780,743. Laminated wall board. Philip W. Codwise, assignor to Certain-teed Products Corporation, New York, N. Y. Filed June 13, 1923. 9 claims. (Cl. 154-2).

1,780,750. Method of preparing cellulose pulp. Harry L. Horn, assignor to Bagasse Development Inc., New York, N. Y. Filed Dec. 2, 1929. 6 claims. (Cl. 92-9).

1,780,793. Coated paper and process of manufacturing same. William Wallace McLaurin, Brookfield, Mass. Filed Nov. 6, 1926. 6 claims. (Cl. 9-68).

1,780,842. Production of sulphite pulp. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Jan. 5, 1927. 12 claims. (Cl. 92-11). Use of sulphurous acid and ammonium sulphate.

1,780,845. Paper-pulp beater. Walter N. Sherwood, North Hoosick, N. Y. Filed Oct. 13, 1928. 4 claims. (Cl. 92-24).

1,780,863. Jordan plug. Brownell Buehler, assignor to Noble and Wood Machine Company, Hoosick Falls, N. Y. Filed Aug. 28, 1929. 8 claims. (Cl. 92-27).

NOVEMBER 11, 1930

1,780,943. Fiber liberating and bleaching process. George A. Richter and Milton O. Schur, assignors to the Brown Company, Berlin, N. H. Filed Apr. 19, 1927. 6 claims. (Cl. 92-11).

1,781,153. Means for measuring moisture content of sheet material. Albert Allen, assignor to Atlantic Precision Instrument Company, Boston, Mass. Filed Dec. 2, 1926. 6 claims. (Cl. 177-351).

1,781,447. Digestion of fibrous material. Thomas Leonidas Dunbar, Watertown, N. Y. Filed Aug. 1, 1929. 9 claims. (Cl. 92-7).

1,781,449. Method for manufacturing high-grade alpha cellulose. Lauri I. L. Durchman, Petersburg, Va. Filed May 8, 1929. 5 claims. (Cl. 92-11).

1,781,645. Process for making emulsified compositions. Lester Kirschbraun, Leonia, N. J. Filed May 6, 1927. 7 claims. (Cl. 92-21).

1,781,668. Fibrous sheet material and process of making same. James C. Peabody and Alfred Brown, assignors to Frank B. Hopewell, Newton, Mass. Filed July 23, 1929. 20 claims. (Cl. 92-21).

NOVEMBER 18, 1930

1,781,712. Wood pulp material. Joseph H. Wallace, assignor to Pine Waste Products, Inc., New York, N. Y. Filed Feb. 5, 1925. 6 claims. (Cl. 92-7). Excess moisture is removed by steam.

1,781,716. Paper-coating composition. Donald B. Bradner and Charles H. Milligan, assignor to The Champion Coated Paper Co., Hamilton, Ohio. Filed Dec. 31, 1927. 22 claims. (Cl 134-20).

1,781,877. Method of and mechanism for coating roofing elements. Harold L. Levin, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Mar. 22, 1927. 9 claims. (Cl. 91-68).

1,781,928. Paper-making machine. Harry Liebeck, assignor to Scott Paper Company, Swarthmore, Pa. Filed Sept. 27, 1928. 4 claims. (Cl. 92-44).

1,781,942. Process and apparatus for barking logs. Orlo A. Bartholomew, Kansas City, Mo. Filed Mar. 14, 1929. 7 claims. (Cl. 144-208).

1,782,214. Process and apparatus for producing felted fibrous board. Edward S. Sheperd, assignor to Albert D. Stewart, St. Joseph, Mo. Filed Sept. 6, 1928. 9 claims. (Cl. 92-39).

1,782,215. Apparatus for producing felted fibrous board. Edward S. Sheperd, assignor to Albert D. Stewart, St. Joseph, Mo. Filed Sept. 6, 1928. 6 claims. (Cl. 92-39).

1,782,281. Cylinder mold for paper-making machines. Tario Yonekura, Fuji-Gun, Japan. Filed Feb. 23, 1929. 1 claim. (Cl. 92-42).

1,782,349. Spear pole for removing paper from the rollers of paper-making machines. Ray B. Hull, near Dayton, Ohio. Filed Nov. 23, 1929. 3 claims. (Cl. 93-38).

1,782,382. Process for the manufacture of paper from plant fibers. Heinrich Eggers, Bremen-Weser, Germany. Filed Jan. 4, 1929. Renewed Oct. 17, 1930. 4 claims. (Cl. 92-13).

NOVEMBER 25, 1930

1,782,611. Manufacture of cardboard boxes. Henry Hackett, Selly Oak, Birmingham, and Arthur Whittaker, Northfield, Birmingham, England. Filed Sept. 16, 1929. 8 claims. (Cl. 93-41).

1,782,618. Paper-strip-controlling mechanism. Robert J. Jauch, Fort Wayne, Ind. Filed Apr. 6, 1927. 2 claims. (Cl. 271-21).

1,782,751. Cellulose product. Eugenio Antonio Vazquez, assignor to Vazcane Process, Inc., Habana, Cuba. Filed Apr. 3, 1928. 10 claims. (Cl. 92-3). Use of bagasse as a raw material.

1,782,755. Method of treating bagasse for the manufacture of wall board and the like. William L. S. Williams, assignor to Hawaiian Cane Products, Limited, Hilo, Hawaii. Filed Aug. 9, 1929. 6 claims. (Cl. 92-14).

1,782,767. Crepeing process. William Wallace Rowe, assignor to The Paper Service Company, Lockland, Ohio. Filed Mar. 5, 1929. 20 claims. (Cl. 154-33).

1,782,777. Machine for forming articles from sheet material. Bernard M. Fine, assignor to Sanitary Products Corporation of America, Philadelphia, Pa. Filed Jan. 19, 1927. 5 claims. (Cl. 93-47).

1,782,784. Reenforced filter paper and process of making same. Fred W. Manning, assignor to Filter Fabrics, Inc., Boston, Mass. Filed Apr. 11, 1927. 19 claims. (Cl. 92-40).

1,782,785. Process of making filter papers and filter fabrics. Fred W. Manning, assignor to Filter Fabrics, Inc., Boston, Mass. Filed Nov. 29, 1927. Renewed Sept. 30, 1930. 17 claims. (Cl. 92-39).

1,782,800. Method of bleaching pulp. Dennis Cushman Andrews, assignor to Northwest Paper Company, Cloquet, Minn. Filed June 23, 1926. 24 claims. (Cl. 8-2).

1,782,855. Felted fibrous products and methods of manufacture. Harold L. Levin, assignor to The Flintkote Company, Boston, Mass. Filed Feb. 11, 1928. 15 claims. (Cl. 92-21). Method of waterproofing.

1,782,869. Method for recovering the fibrous material from sugar cane. Joaquin Julio de La Roza, Sr., assignor to Bagasse Products Corporation, New York, N. Y. Filed Mar. 25, 1926. 4 claims. (Cl. 92-9).

1,782,884. Method of making paper bags.

Thomas M. Royal, Philadelphia, Pa. Filed Feb. 7, 1929. 6 claims. (Cl. 93-35).

1,782,918. Decorticating and depulping machine. Karl Erb, Frankfort-on-the-Main-Griesheim, Germany. Filed Apr. 6, 1929. 9 claims. (Cl. 19-12).

1,782,961. Paper container. George Hereth Gardner, assignor to The Menasha Products Company, Chicago, Ill. Filed Dec. 7, 1928. 5 claims. (Cl. 229-5.5).

DECEMBER 2, 1930

1,783,313. Material for conversion into cellulose derivatives and process of producing the same. Milton O. Schur and Royal H. Rasch, assignor to Brown Company, Berlin, N. H. Filed Oct. 9, 1926. 21 claims. (Cl. 260-146).

1,783,317. Ball-bearing mounting for dandy rolls. Peter S. Sinclair, Holyoke, Mass. Filed Feb. 14, 1930. 5 claims. (Cl. 92-48).

1,783,442. Recording paper. Charles W. Mayer and Everett F. Sillers, Rochester, N. Y. Filed Feb. 4, 1928. 5 claims. (Cl. 282-28).

1,783,575. Apparatus for coating roofing units. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Oct. 24, 1927. 37 claims. (Cl. 91-46).

1,783,845. Method of making bags. Herman B. Laymon, Spencer, Ind. Filed Jan. 10, 1930. 1 claim. (Cl. 93-35).

1,783,575. Apparatus for coating roofing units. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Oct. 24, 1927. 8 claims. (Cl. 91-68).

1,783,850. Apparatus for finishing roofing units. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Oct. 24, 1927. 5 claims. (Cl. 91-59).

1,783,868. Paper manufacture. Max Wenzel, Muldenstein, near Bitterfeld, Germany. Filed Oct. 17, 1929. 5 claims. (Cl. 92-47). Press roller.

DECEMBER 9, 1930

1,783,969. Paper-making machine. William M. Millspaugh, assignor to The Paper and Textile Machinery Company, Sandusky, Ohio. Filed Jan. 21, 1929. 11 claims. (Cl. 92-30).

1,783,969. Paper-making machine. William H. Millspaugh, assignor to The Paper and Textile Machinery Company, Sandusky, Ohio. Filed Jan. 21, 1929. 10 claims. (Cl. 92-39).

1,784,039. Wood-pulp producing and refining. Linus A. Braun, Minneapolis, Minn. Filed Feb. 5, 1929. 7 claims. (Cl. 92-20).

1,784,161. Process of refining cellulose pulp. George A. Richter and Milton O. Schur, assignors to Brown Company, Berlin, N. H. Filed May 27, 1924. 3 claims. (Cl. 92-9).

1,784,197. Circulating apparatus for wood-pulp digester. Albert G. Natwick, St. Catharines, Ontario, Canada. Filed Mar. 17, 1928. 9 claims. (Cl. 92-7).

1,784,509. Filtering and decolorizing paper of acid character. Walter S. Baylis, assignor to Filtrol Company of California, Los Angeles, Calif. Filed Aug. 5, 1929. 8 claims. (Cl. 92-21).

1,784,545. Drive for paper machines. Friedrich Schiebuhr, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany. Filed Feb. 14, 1929. 4 claims. (Cl. 172-293).

1,784,566. Process for treating cotton and other vegetable pulps or fibers of a porous absorbing nature. Clarence W. Andrews, Burlington, N. C. Filed Oct. 5, 1929. 10 claims. (Cl. 92-13).

1,784,797. Method of coating and impregnating webs of flexible material. Emil Weinheim, New York, N. Y. Filed June 17, 1929. 3 claims. (Cl. 154-40).

1,784,799. Floor-covering material and process of making same. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Nov. 23, 1926. 9 claims. (Cl. 91-68).

1,784,800. Floor covering and process of making same. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Nov. 19, 1926. 18 claims. **(Cl. 91-70).**

1,794,801. Floor covering and method of making same. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Dec. 2, 1926. 9 claims. (Cl. 91-70).

1,794,802. Textured floor covering and process of making same. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Dec. 2, 1926. 11 claims. (Cl. 91-68).

1,784,803. Light-colored floor covering and process of making same. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Dec. 2, 1926. 12 claims. (Cl. 91-68).

1,784,804. Variegated floor covering and method of making same. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Dec. 3, 1926. 10 claims. (Cl. 91-70).

1,784,805. Floor rug and process of making same. Boris N. Lougovoy, assignor to Ellis-Foster Company, Montclair, N. J. Filed Dec. 13, 1926. 21 claims. (Cl. 91-70).

DECEMBER 16, 1930

1,784,810. Floor covering. Robert D. Bonney and William Y. Irwin, Jr., assignors to Congoleum-Nairn, Inc. Filed Oct. 8, 1928. 1 claim. **(Cl. 91-68).**

1,784,849. Pulpmaking and apparatus therefor. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Sept. 18, 1928. 3 claims. (Cl. 92-7). Digester.

1,784,906. Method of embossing fiber sheets. Leopold Oxhandler, Chicago, Ill. Filed Aug. 8, 1927. 3 claims. (Cl. 18-56).

1,784,993. Water-resistant fiber product and process of manufacture. William H. Mason, assignor to Masonite Corporation, Laurel, Miss. Filed May 12, 1928. 5 claims. (Cl. 92-21). Coating with paraffin.

1,785,101. Porous fibrous material. Daniel Manson Sutherland, Jr., assignor to Better Packages, Inc., Shelton, Conn. Filed Oct. 11, 1928. 4 claims. (Cl. 92-55). Fibers are bound together by red gum.

1,785,260. Stencil sheet. Shinjiro Horii, Tokyo, Japan. Filed Nov. 17, 1928. 1 claim. (Cl. 41-38.6).

1,785,265. Calender roll. Archibald Lade, assignor to B. F. Perkins and Sons, Inc., Holyoke, Mass. Filed Dec. 21, 1928. 2 claims. (Cl. 92-71).

1,785,357. Waterproof fibrous product. Harold L. Levin, assignor to The Flintoke Company, Boston, Mass. Filed Nov. 7, 1927. 11 claims. (Cl. **92-21).**

1,785,379. Sheathing paper. Carl Gilmore, Oakland, Calif. Filed June 1, 1929. 4 claims. (Cl. 154-50).

1,785,434. Waterproofing of materials. Walter A. Bridgeman, assignor to The Wilbur White Chemical Co., Owego, N. Y. Filed Apr. 17, 1928. 3 claims. (Cl. 134-11). An emulsion of fat in an aqueous soap solution of an aromatic phenol.

1,785,484. Process of and apparatus for treating paperboard and the like. Richard Kastner, Steyrermuhl, and Herbert Schmolka, Vienna, Austria. Filed Jan. 21, 1928. 2 claims. (Cl. 34-24). A process of removing water from wet

1,785,490. Drive for wood-pulp grinders and the like. Wilbur L. Merrill, assignor to General Electric Company, Schenectady, N. Y. Filed Feb. 10, 1925. 9 claims. (Cl. 83-75).

1,785,544. Process and apparatus for disintegrating wood. George H. Ellis, assignor to The Insulite Company, Minneapolis, Minn. Filed June 27, 1927. 15 claims. (Cl. 92-20).

1,785,591. Digester for sulphite wood pulp. Einar Morterud, Torderod, near Moss, Norway. Filed Feb 26, 1929. 11 claims. (Cl. 92-7).

1,785,687. Stuff pump. Alonzo Aldrich, Beloit, Wis. Filed Apr. 24, 1924. 3 claims. (Cl. 103-6).

1,785,688. Guideway for reciprocating engines, pumps, or the like. Alonzo Aldrich, Beloit, Wis. Filed Mar. 10, 1926. 13 claims. (Cl. 308-5).

DECEMBER 23, 1930

1,785,840. Process for production of fibers for wall board and similar structures. Treadway B. Munroe, assignor to The Celotex Company, Chicago, Ill. Filed Apr. 6, 1927. 18 claims. (Cl. 92-6).

1,785,886. Mounting of calender rolls and the like. Geoffrey Foster Barrett, assignor to Norma-Hoffman Bearings Corporation, New York. Filed Mar. 20, 1923. 10 claims. (Cl. 308-72).

1,786,211. Pressboard. George K. Lewis, assignor to Met-L-Wood Corporation, Chicago, Ill. Filed Oct. 18, 1928. 10 claims. (Cl. 11-1).

1,786,215. Method and apparatus for making seamless pipes. Adolfo Mazza, assignor to Johns-Manville Corporation, New York, N. Y. Filed Nov. 12, 1924. 11 claims. (Cl. 92-66).

1,786,270. Water-resistant and fire-resistant fibrous product and method of making same. Hugh McCurdy Spencer, assignor to The Upson Company, Lockport, N. Y. Filed May 4, 1927. 5 claims. (Cl. 92-21).

DECEMBER 30, 1930

1,786,462. Plastic composition. George B. Stryker, Jr., assignor to The Waterproof Products Company, Memphis, Tenn. Filed July 31, 1928. 1 claim. (Cl. 92-41).

1,786,538. Chemical-pulp paper-making process. Frank A. Johnson, Felts Mill, N. Y., assignor of one-fourth to Dilts Machine Works, Inc., Fulton, N. Y. Filed Oct. 15, 1927. 2 claims. (Cl. 92-20).

1,786,587. Doctor for paper-making machines. John Wenzel, Chillicothe, Ohio. Filed Nov. 11, 1929. 3 claims. (Cl. 92-74).

1,786,669. Process of and apparatus for the dry disintegration and deposition of fibers. Fred W. Manning, assignor to Filter Fabrics, Inc., Boston, Mass. Filed Apr. 23, 1928. 18 claims. (Cl. 19-147).

1,786,679. Wood grinder. Wilhelm Thaler, assignor to American Voith Contact Company, Incorporated, New York, N. Y. Filed Jan. 21, 1926. 10 claims. (Cl. 83-75).

1,786,681. Method of and apparatus for manufacturing paper. John Traquair, assignor to The Mead Pulp and Paper Company, Dayton, Ohio. Filed July 31, 1926. 18 claims. (Cl. 92-40).

1,786,726. Board-cutting machine. Carl Absmeier, assignor to United States Gypsum Company, Chicago, Ill. Filed Feb. 6, 1929. 4 claims. (Cl. 164-68).

1,786,781. Cloth-like fabric. Milton J. Shoemaker, assignor to C. F. Burgess Laboratories, Inc., Madison, Wis. Filed Aug. 13, 1928. 21 claims. (Cl. 154-2).

1,786,890. Method of manufacturing cellulose and textile fibers from vegetable matter. Carl Alfred Braun, Munich, Germany. Filed Aug. 15, 1927. 3 claims. (Cl. 92-11).

1,786,911. Process for the manufacture of transparent papers, particularly those used for the packing of edible articles. Otto Klotz, Goppingen, Germany. Filed Feb. 25, 1927. 1 claim. (Cl. 92-68).

1,786,933. Shake mechanism. Frederick A. Bowman, assignor to The Pusey and Jones Corporation, Wilmington, Del. Filed Aug. 24, 1928. 19 claims. (Cl. 92-45).

1,786,973. Method of and apparatus for selecting fiber. Robert A. Webber, assignor to Brown Company, Berlin, N. H. Filed July 18, 1927. 2 claims. (Cl. 92-20).

1,787,047. Pulp-filtering machine. Emil C. Loetscher, Dubuque, Iowa. Filed Sept. 12, 1929. 14 claims. (Cl. 92-39).

1,787,163. Gypsum wall board. Gustave Adolph New, assignor to American Gypsum Company, Port Clinton, Ohio. Filed May 26, 1928. 23 claims. (Cl. 154-2).

1,787,218. Method of and means for making decorated paper. Jesse H. Trask, Wausau, Wis. Filed Oct. 22, 1928. 12 claims. (Cl. 92-48).

1,787,341. White-water system for reclaiming white water or any fiber. Charles Dupuis, Ladysmith, Wis. Filed Sept. 4, 1930. 14 claims. (Cl. 92-38).

1,787,395. Method for bleaching cellulose of any kind. Ladislav Rys, Ruzomberck, Czechoslovakia. Filed Dec. 20, 1928. 5 claims. (Cl. 8-2).

TAPPI Notes

H. F. Bamford has resigned his position as chemist in the paper mill of the Johns-Manville Company, Manville, N. J., and is at present located at 14 Forrester street, Newburyport, Mass.

J. G. Bullard has resigned as chemist at the Dennison Manufacturing Company, Framingham, Mass. Mr. Bullard is a graduate of the University of Maine and is now located at 886 Worcester Road, Framingham, Mass.

R. H. Stevens, chief chemist of the Bogalusa Paper Company would like to obtain a copy of Technical Association Papers, Series VIII (1925), and will pay three dollars for a copy.

W. H. Kraske is now sulphite mill superintendent at the Anglo-Newfoundland Company mill at Grand Falls, Nfld.

The Eastwood Wire Corporation one of TAPPI'S contributing members has recently changed its name to the Eastwood Corporation, Belleville, N. J.

Harold E. Brakewood, chief chemist of the Ohio Boxboard Company has resigned his position and is now at 18 North Third street, Rittman, Ohio.

Donald K. Pattillo, who has been doing special consulting work for the Paradon Company of Arlington, N. J., is now with the Clinton Corn Syrup Refining Company at Clinton, Iowa.

Josef Hedin formerly superintendent of the Union Bag and Paper Power Corporation of Tacoma, Washington, is reported to have died last week in the Stevens Hotel, Chicago, Illinois.

E. W. G. Cooper, formerly of the Don Valley Paper Mills and the Racquette River Paper Company is now at the Camas, Washington mill of the Crown Willamette Paper Company.

R. E. Cooper, chemist of the Spanish River Paper Company has left this position and may now be reached at Box 101, Renfrew, Ontario.

P. D. Switzer is now in Philadelphia with the Moore & White Company. He was previously with the Bird Machine Company at S. Walpole, Mass.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

Standard Costs in Budgeting*

By Stanley G. H. Fitch, C. P. A.[1]

Budgetary control of business operations is founded on forecasts or predictions of future sales, costs and profits. Having determined the volume of sales, both as to units and values, which may be expected and thus set up the objective for the factory executives, the next step in budgeting is to develop the data on production costs. At this point, "standard costs" come to the aid of the "Budgeteer." Without standard costs, using that term in a broad sense, budgetary control could not have been made such an effective tool of modern management as it has now become.

Many attempts have been made to define standard costs, some with indifferent success. One definition which appealed to me is that by Mr. Eric A. Camman, viz:

"The standard cost of an article may be defined as that cost which results from computing its manufacturing specifications at fixed basic prices for the components of material, labor and manufacturing expense."

In other words, standard costs are based on standard or normal performance in the production of a unit of commodity or service.

An Erroneous Impression

Many writers on standard costs and budgets as applied to industrial accounting convey the thought that standard costs were originated within the past twenty years, so I hope I may be pardoned if I take this opportunity to correct that erroneous impression. In a recent article on "Some Cost Accounting Terms" in the Journal of Accountancy, Mr. John Whitmore quotes form "Factory Accounts," a book published in England in 1887 by Messrs. Garcke & Fells, as follows:

"Before any order to manufacture is given it is advisable, as tending to produce greater economy in cost of production, that the designer, draughtsman, or other person best acquainted with its processes and details, should, on a properly ruled and headed form, estimate the probable cost to be incurred in wages and materials in the production of the articles in question. This estimate should be a minimum rather than a maximum one. The works manager or foreman should be supplied with a complete specification of all material and parts included in the estimate. The storekeeper should also be furnished with the same particulars, and should not without special authority issue more material for the order than is estimated."

"To ensure consideration of the question of what economies are practicable in construction or manufacture, the heads of the designing and manufacturing departments should be advised of the cost of each order when it is completed in such details as permits of a comparison being instituted between the actual and estimated cost. As a matter of convenience the estimate forms may include columns for the actual costs to be inserted when known. The employer should be advised of the differences between actual and estimated costs in such detail as he may require. It is also desirable that a comparative cost register should be compiled showing the difference in cost of making the same or similar articles under differing conditions of time, material, parts, or quantities. This register will be specially serviceable in preparing estimates and quoting for orders, and permits of the necessary adjustments in quotations consequent upon the increase or decrease in the market price of material."

While the term "Standard Costs" is not used in the foregoing quotation, it is quite clear that forty-three years ago, the principle of standard costs, as defined by a modern writer whom I have already quoted, was thoroughly understood and enunciated by the authors of that ancient book.

Reduce Values To Raw Materials

So to return to the development of the manufacturing budget, we reduce the values and units set up in the sales budget to terms of raw materials, manufacturing operations and burden expressed in standard cost values. The production for each manufacturing department is budgeted in terms of standard performance; actual results are later set up in comparison and any variations from standard are automatically disclosed and call for analysis and explanation.

Such variations may be favorable or unfavorable from a profit standpoint and arise from at least two distinct causes, viz., first, variations in volume of product either greater or less than the standard or normal established in the budget, and secondly, variations in actual outlay per unit for material, labor or expense, either more or less than the basic costs adopted as standard. The analysis of the variations from standard costs should always display the effects of those two factors.

Furthermore, some items of expense being fixed, and some being variable according to volume of production, an analysis of expenses for past periods will show the effect of increments in output upon each item of variable expense; and, from such data, a sliding scale budget can be prepared setting up standards for all variable expenses under any volume. When budget estimates of annual or semi-annual sales are passed along to the production department heads, such estimates have to be broken down into monthly budgets, especially if the business is seasonal, in order to plan a proper flow of production. If the orders do not come in as expected, the production departments are confronted with necessary revisions of their monthly budgeted programs.

Standard costs when compared with actual costs disclose the cost of idle capacity. Idle capacity may arise from periods of depression when production falls below normal and for which

* Delivered at the Fifteenth Annual Meeting of the Associated Industries of Massachusetts, Boston, Mass. From N. A. C. A. Bulletin.

[1] Patterson, Teele & Dennis, Boston, Mass.

there may be no immediate remedy; from changes in style or development of substitute products by other manufacturers which destroy the market for an old-time article, and against these contingencies vigilance and far-sighted management are the only safeguards; or idle capacity may arise from over-extension of plant in boom times (such as were experienced during the war) or in other times as the result of poor judgment or over-optimism on the part of the management. With the cost of idle capacity continually shown up through the medium of standard costs, there is an increased incentive to find a remedy.

Basis for Extra Compensation

In budgeting, standard costs provide a basis for extra compensation, i.e., the incentive to do something more than a day's work for a day's pay; an arrangement by which both the company and the officers and employees may expect to profit. The recipients of the extra compensation, or bonus may be the chief executives, the department heads or the rank and file of employees, or all three groups, but whoever the participants, the measure of the profit-sharing or bonus, established in advance, is standard cost or standard performance, expressed in appropriate terms for the undertaking in question.

In an intelligent approach to any standard cost or budget problem, one must recognize the fundamental truth that the bases for standard costs vary for different kinds of business and have to be developed to fit the unit of commodity or service; and also that the budget plan should take form to suit the type of industrial organization in which it is developed. The introduction of a standard cost plan may precede the adoption of a budget plan or on the other hand the budget plan may be started first.

In one case the management was satisfied that it could operate successfully without standard costs and that its records of actual direct costs for labor and materials were complete and accurate, but was not so sure regarding the burden rates used in figuring costs. The basis of application of factory burden to costs was shown by preliminary study to be inaccurate and inequitable. Consequently, we were instructed to develop a proper basis for distribution of burden and this involved the budgeting of factory expenses by departments. The results of the investigation were somewhat startling in showing up the differences between departmental burden rates applicable to units of production and the burden rates formerly used. The budgeting of factory burden was the entering wedge in breaking down managerial resistance to the development of a complete budget plan, including the use of standard costs, for the control of future operations.

Visual Application of the Principle

Standard costs are commonly thought of as relating to units of production or service for sale to customers and it is in the same sense that we ordinarily think of the budget of an industrial company. When we remember that standard cost measures the cost of standard performance, we can readily visualize the application of that principle in organizing and budgeting the accounting department of a corporation with a widespread organization. Some years ago a corporation which manufactured and distributed its own products had developed its business far ahead of its accounting system, which was decidedly primitive, and it became necessary to reorganize the accounting department. In order to facilitate prompt billing to customers, billing offices were installed in principal branches located throughout the country, but the customers' ledgers were kept at the home office and posted from duplicate bills and controlling summaries forwarded daily from the branches. At the outset the number of bills to be handled at each branch was estimated and a reasonable clerical force engaged for each branch; and on a similar basis the force of ledger clerks was organized to keep the customers' ledgers. As soon as the offices were running smoothly the clerical work was surveyed, a standard of performance was established and the clerical forces both at the branch billing offices and at the home office were substantially reduced. From that point on it was possible to budget the number of clerks according to the fluctuating volume of business, on the basis of standard performance, or in other words a standard cost for clerical work was established and used in the budget.

The program for this conference announced that I would answer three questions. The answers which I submit for your consideration are intentionally brief, in the expectation that they will be further developed in the discussion which I hope will follow the termination of my remarks.

(1) What is the proper place of modern accounting in the development of budget methods?

Modern accounting recognizes the necessity for a chief accounting officer; his title (usually comptroller or auditor) is immaterial, but no effective budget procedure can be developed without the aid of his department. The comptroller is generally trained in business as well as in accountancy and familiar with all phases of his company's operations; he is a "key" man.

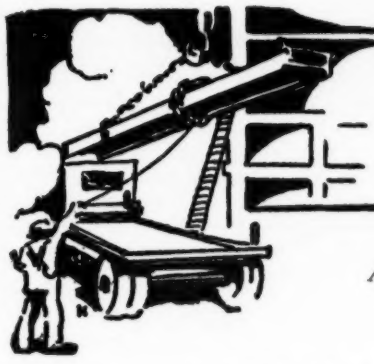
One function of the accounting department is to record the transactions of the business in appropriately classified accounts so that the operating results and financial condition can be currently reported to the management. In the final preparation of the budget, which would ordinarily be built up on departmental lines, the comptroller should be certain that the budget items conform directly with the corresponding classifications of accounts, and should bring to bear his knowledge and experience in eliminating inconsistencies or reducing too optimistic estimates frequently included in the preliminary figures; and finally he should analyze and interpret the variations between the budget and the actual results.

(2) What are the difficulties in the way of organization of budget procedure on the basis of predetermined standard costs?

While many difficulties are encountered in organization a budget system on the basis of standard costs, such difficulties can be classified, I believe, generally in two groups, viz., difficulties arising from training the clerical personnel, and difficulties arising from acts of executives without experience in handling standard costs and budgets. Cases are not uncommon where a standard cost procedure has been installed by competent accountants or engineers but after their premature withdrawal owing perhaps to the management's policy of false economy, the system broke down because those charged with its execution were either inadequately trained in details or lacked the desire or ambition to see the system succeed, probably because they could not visualize the work in a broad way. There are also the executives who have been "sold" the budget and standard cost principle, but who, without taking the pains to master its details, find themselves lost in a set of reports in a form never before seen by them and condemn the system because it is outside the scope of their narrow understanding; or the executives who expect too much of standard costs and when they find that all old difficulties have not disappeared over night, condemn the idea as a fraud.

(3) How can the accountant cooperate effectively with the statistician?

To this question my answer is *coordination of effort* between the accountant and the statistician, and I can perhaps best illustrate my meaning by citing a case which recently came to my attention, where the accounting department and the statistical department were not coordinated. In laying out a budget plan based on standard costs, the accounting department had available the necessary data on costs but needed details of sales analyzed by units of product and territory served. Upon applying to the statistical department, it was found that while the sales had been minutely analyzed, the classifications of product did not harmonize with those used in the accounting department and the totals were compiled on a fiscal year basis dictated by the sales department, while the accounts had been kept on a calendar year basis. It had never occurred to the company's officials that the two departments should be coordinated, and when important data was needed it was not available in a form that could be used without a discouraging amount of re-analysis.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Trenton, N. J.—The Panelyte Corporation, Enterprise avenue, Trenton, manufacturer of insulation board products for electrical service, automobile panels and kindred board products, has plans for a new addition to plant, to be 50 x 160 ft., one-story, equipped for increased output. It is reported to cost about $40,000, with equipment. General building contract has been let to J. H. Kelleher, 5362 Arlington street, Philadelphia, Pa., and work will be placed under way at once. Company is affiliated with the St. Regis Paper Company, Norfolk, N. Y.

Brooklyn, N. Y.—The Paragon Box Corporation, recently organized with capital of $10,000, by Harold L. Schwartz, 570 Seventh avenue, New York, and associates, is said to be planning the early operation of local plant for the manufacture of paper boxes and containers.

Dayton, Ohio—The Gebhart Folding Box Company, 22 Powers street, has awarded a general contract to the Andrew Plocher Sons Company, Dayton, for a one-story addition to plant for increased capacity. Plans have been filed and work will be placed under way at once. Estimated cost has not been announced.

Cleveland, Ohio—The Dobeckmun Company, manufacturer of cellophane products for envelopes, bags and kindred specialties, has removed its plant from building at West 79th street and the New York Central Railroad, to a new factory unit at Monroe avenue and Fulton road, S. W., recently completed for company occupancy. An expansion program will be carried out at the new location, including development of a process for printing on cellophane. The new plant will represent a total investment of about $150,000. It was designed by the George S. Rider Company, Century Building, Cleveland, engineer. T. F. Dolan is president of the Dobeckmun Company.

Panama City, Fla.—The Southern Kraft Corporation, Panama City, an interest of the International Paper Company, New York, has active work in progress on its new local mill, to be used for a production of kraft paper stocks. Work has been completed on several buildings and installation of equipment is understood to be progressing rapidly. The project will include a dock, as well as other structures for receiving raw materials and for shipping of finished stock. The entire project is reported to cost upward of $5,000,000, for initial units, with an expenditure of close to like amount anticipated for ultimate completion of the plant.

Windsor Locks, Conn.—C. H. Dexter & Sons, Inc., manufacturer of tissue and other paper stocks, is now running on a full time production schedule, following curtailed operations for several months. The mill is giving employment to more than 200 persons and will be continued on present basis for an indefinite period.

Baltimore, Md.—The Chesapeake Paperboard Company, Locust Point, Baltimore, has recently completed a new addition to its mill, providing for large increase in former capacity, and unit has been placed in operation. The new buildings include a one-story machine room, 65 x 290 ft.; one-story beater room, 83 x 178 ft.; a paper stock house, approximately 82 x 116 ft.; and a one-story boiler plant. The entire development occupies about two acres of land. The new plant is understood to have a rating of about 125 tons of paper board per day, and employment will be given to large increased working force. The expansion program is said to represent an investment of over $450,000, including machinery. James C. Smith is president.

Chicago, Ill.—The G. A. Ackerman Paper Mills, Inc., has been chartered with a capital of 100 shares of stock, no par value, to take over and expand company of same name, with plant at Fifty-fourth avenue and Fourteenth street, Cicero. The new company is headed by M. A. Ackermann, Roy Mackenzie and Laurence M. Clemmer.

Los Angeles, Cal.—The Carpenter Paper Company of California, Ltd., has been organized with a capital of $100,000, to establish and operate a local plant for the manufacture of paper specialties, as well as to deal in such products. The new company is headed by Kenneth C. Holland and associates, Los Angeles, while Isaac W. Carpenter, Omaha, Neb., will be prominent in the organization. The company is represented by Leland S. Bower and W. A. Martin, Financial Center Building, Los Angeles, attorneys.

Kalamazoo, Mich.—The Kalamazoo Vegetable Parchment Company, Kalamazoo, is reported to be running on close to normal production schedule, with regular working quota, and will continue on that basis for an indefinite period. It is understood that incoming business is equalling if not exceeding that of a year ago at this same time.

Chehalis, Wash.—The Backus-Brooks Company, Builders Exchange, Minneapolis, Minn., has secured an extension of nine months on a water power permit obtained a number of years ago, for the construction and operation of a hydroelectric power plant on the Cowlitz River, in the Mossyrock-Mayfield district, Lewis County, Wash. It is understood that the company will proceed with the project at an early date. Preliminary surveys and test borings have been made to determine the feasibility of a proposed power dam, near Mossyrock. The entire project is reported to cost over $2,000,000. The power development will be utilized for lumber mill, as well as paper mill service by the Backus-Brooks interests, which operate plants of the latter character.

Kingsport, Tenn.—The Tennessee-Eastman Corporation, a subsidiary of the Eastman Kodak Company, Kodak Park, Rochester, N. Y., is said to have plans for the early construction of a new addition to its local cellulose mill, to be one-story, reported to cost close to $70,000, including equipment. New unit will be used for increased output.

Hamilton, Ohio—The Champion Coated Paper Company, Hamilton, is arranging for an issue of special preferred stock, with gross par value of $1,250,000, the proceeds to be used in part for general financing and to cover the cost of plant expansion and betterments which have been carried out in recent months.

An Old Timer's Reminiscences

By Joseph H. Wallace, Pres., Joseph H. Wallace & Co.

(Continued from last week)

Holyoke in the Gay Nineties

Tower's office was up one flight in the flatiron building where Main and Race streets intersect—and it was the meeting place of mill owners with alterations and improvements in their minds. Tower did all the paper mill engineering worth doing in those days. His partner was George F. Hardy and one of his star engineers was Hardy Furguson. It's my guess that they need no introduction to anyone in the paper trade. Both are Dartmouth College, Thayer School of Engineering graduates.

The flatiron building has since become the headquarters of the American Writing Paper Company which was organized later, the appraisals for which organization Tower and his flock of engineers produced.

Tower loved good horses and other good things of life. He was a connoisseur in living and wonderful company. Everyone in the paper trade looked to him for engineering and he was a good showman as well as a very practical millwright, and so he prospered.

I first met Ferguson at Berlin, N. H., where he was interpreting brainstorms and futuristic ideas produced by Theodore Burgess—a genius who was at the head of Burgess Sulphite Mills—"the largest in the world." Burgess was a hard man to follow, as I afterward found; but "Fergy" was fast enough in his mental operations to get ahead of him, and soon became Burgess's favorite engineer. Doing engineering for Burgess was some training, and likely to develop initiative or result in a short life—that is, with Burgess.

The Historic Flatiron Building

It always has seemed to the writer that the office in the flatiron building is the outstanding building of historic interest in the paper trade. Holyoke mills were planned there. Then—as the industry spread to Maine, New York, Michigan and Wisconsin, either Tower or some of his adopted children in the engineering game went out into the world and furnished the designs. Then the industry went on into Minnesota and over the boundary into Canada and on went the products of Tower's factory of engineers and their proteges and thence to Europe, South America, Australia and Asia, all of which called on American paper mill engineers, descendants of Tower's office in the flatiron building at the Corner of Maine and Race streets, Holyoke.

The list of American Writing Paper Company Divisions is a reminder of the old days when Albion, Beebe and Holbrook, Crocker, Dickinson, Gill, Linden, Norman, Parsons, Riverside and Wauregan were entities representative of the fine paper trade in this country. Franklin Newton, Valley and Whiting Mills remained independent, as did one of the Parsons' mills. The names: Crocker, Ramage, Newton, Bagg and Whiting still carry on as representatives of Holyoke's old time days when fine paper meant Holyoke.

Peace to Their Ashes

It was the writer's good fortune to become well acquainted with the paper makers of Holyoke in the gay nineties—and old notebooks show many secrets told to him by the canny Scotch, Irish and English wizards who made Holyoke papers famous. Peace to their ashes.

From 1895 to 1897 inclusive, the writer worked in new paper mills for William A. Cole, Putney, Vt.; Marshall Paper Company, Turners Falls, Mass., and Glen Manufacturing Company, Berlin, N. H.; a complete rebuilding of the mill of the Crocker Manufacturing Company, and alterations and additions to many of the local plants in Holyoke.

The William A. Cole Paper Company at Putney, Vt., was my first job of mill designing and building "on my own" and it was my pleasure to visit this mill last summer and to find it running along about as built. "Bill" Cole was a lovable man. He farmed and made paper simultaneously—while haying he could hear the squeaking of his machinery and tell that it was running along O.K., which was a decided advantage to Bill who bossed the whole job himself. One day a machine tender, new to Bill's mill and its idiosyncracies in advertently greased the paper machine and took the squeak out of its bearings. Whereupon Bill fired the man forthwith because it no longer informed the neighborhood that it was running. Bill said it took months to get the machine to squeak properly again.

Bill's mill burned down and Tower sent me to Putney to design and rebuild it. All was well until I began to take down an old retaining wall of dry masonry that was to be rebuilt to act as a foundation for one of the mill walls. Then Cole fired me stating that the mill could be built on the old wall which had "stood there fifty years." I declared it unsafe and returned to Holyoke. A few days later, Cole came down and hired me to go back, because "the darned old wall fell down after all." Lucky, wasn't I? I remember trying to convince Bill that he should install a turbine in rebuilding the mill, but Bill couldn't be convinced that water would do any good after it passed the wheel so we had to build the new brick mill around the old overshot wheel that had kept wet, running and unharmed while the old wooden mill burned down. And that overshot wheel is still agoing; so perhaps Bill wasn't so foolish after all.

Contact With Exceptional Men

The Marshall mill at Turners Falls is now Esleeck Manufacturing Company; and Glen Manufacturing Company at Berlin, N. H., is now part of the Brown Company's enormous developments. These were years of contact with many exceptional men in the paper trade.

I remember with pleasure Porter Farwell and W. D. Russell of Montague Paper Company, afterwards International Paper Company; and Ray Farwell who was my assistant on the job at Turners Falls. Ray is now manager of the mill at Ryegate, Vt., with puppies of his own. Frank J. Marshall, inventor of the Marshall engine and his brothers Ed and George—all paper makers, born and bred. Billy Crocker—inventor of Crocker turbines and many other things, musician and scientist; and Riley Farnsworth—mechanic extraordinary, who could design and build anything required by means of common sense and a lot of education gained from experience.

As already stated, George F. Hardy was A. B. Tower's partner at that time; but with the formation of International Paper Company in the late nineties, Mr. Hardy became its chief engineer, and left Holyoke for New York City, where he still remains.

Garret Schenck's Answer

Hardy Ferguson left the Tower organization at about the same time and opened an office in Lewiston, Maine, shortly afterward moving to Millinocket to design and supervise the building of the Great Northern Paper Company's plant—by far, the world's biggest paper plant. This was Garret Schenck's answer to the formation of the International Paper Company, which took over Schenck's plants at Rumford Falls, Me., and left him idle.

If I seem to wander from any consecutive program in telling this story, I am sorry, but it appears desirable to proceed at random as the material crops up.

In Holyoke the water power company had disposed of most of the power available throughout the year. New mills were developing elsewhere, nearer to the raw material—engineering work was developing elsewhere also—and in 1897, Tower & Wallace was organized, moved to New York city, and opened offices at Broadway and Twenty-fifth street.

(To be continued)

New York Trade Jottings

Foreign Paper Mills, Inc., manufacturers of paper mill equipment and accessories, have moved their offices from 72 Duane street, to new and enlarged quarters at 314-316 Broadway.

* * *

Frank Lyden, consulting engineer, of New York, has returned from the Pacific Northwest, where he has been studying industrial conditions with special emphasis on the pulp and paper mills.

* * *

Sheldon Bradley, of the Strathmore Paper Company, gave a talk on "Paper" at the regular monthly meeting of the Club of Printing Women, at Turn Hall, New York, last Monday night.

* * *

New York sales offices of the Dyestuffs Department of E. I. du Pont de Nemours & Co., are now established in the Merchants Square Building, 61 Thomas street, New York, having been removed from 8 Thomas street. The former call numbers remain in effect, viz., Worth 2—3288, 3289 and 3290.

* * *

Westinghouse Electric and Manufacturing Company will devote its entire time on the air to the paper industry on Tuesday, February 10. S. L. Willson, president of the American Paper and Pulp Association, will be the guest speaker. The program will go out over the "Blue Network" of the National Broadcasting Company, a coast-to-coast hook-up, at 10 p.m., Eastern standard time; 9 p.m., Central time; 8 p.m., Mountain time, and 7 p.m., Pacific time.

* * *

There was an excellent attendance at the regular weekly luncheon and meeting of the Salesmen's Association of the Paper Industry last Monday at George's Restaurant, New York. Endicott Rantoul, vice-president of the association, occupied the chair. Phil Howard, Editor of the *American Paper Merchant*, who was the guest speaker, gave an instructive and interesting talk on "Business Conditions in the Middle West," with special emphasis on the paper trade, which was thoroughly enjoyed by those present.

* * *

Announcement that William L. Chenery, Editor in Chief of *Collier's Weekly*, was to be the principal speaker at the Annual Luncheon of the Salesmen's Association of the Paper Industry, which will take place at the Pennsylvania Hotel, New York, on Tuesday, February 17, and that the subject of his address will be "Why the 18th Amendment Will Be Repealed," has aroused great interest in the paper and pulp industry. Incidentally, attendance at the luncheon is not restricted to members of the association and their invited guests. Anyone who has the cash can buy a ticket, either beforehand or at the door.

Brown-Bridge Mills Increase Sales

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 26, 1931—The Brown-Bridge Mills Company of Tray, 20 miles north of here, at its annual meeting held this month reported increasing sales. The session of the board was conducted last Tuesday when it was stated that the company in its three years of existence has built up an enviable reputation in the quality of its "B-B" brand products.

This fact is reflected in the heavy orders for delivery within the next three months. Officers reported the gumming machinery is running on a 24-hour schedule.

Officers elected at the annual meeting were:—President, Charles W. Shartle; Vice-president, C. D. Geisinger; Secretary, J. A. Shartle; Treasurer and General Manager, P. H. Bridge; Assistant Secretary-Treasurer, S. R. Bridge; Directors, E. E. Pearson and Thomas Sebald, the latter of Middletown; and the officials named above.

Sutherland Paper Co. Makes Good Showing

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., January 26, 1931—An expenditure of more than $450,000 for improvements during 1930 are reported by L. W. Sutherland, president of the Sutherland Paper Company. These betterments include a new power house and boilers for the No. 1 plant in East Michigan avenue, also some minor structures at the No. 2 mill. Equipment at both the one and two mills has also been overhauled and brought up to condition and as result the property is in better condition as a whole than ever before.

Several important new items have recently been added to the Sutherland line of paper and folding cartons and promise excellent profits in the near future.

"The outlook for future operations is excellent," said President Sutherland. "With the return of normal conditions, this company shows very substantial earnings. Financially, current assets as of December 31, 1930, stood at $1,309,180, with cash and marketable securities of $135,031, compared with current liabilities of $390,228. Cash and marketable securities amount to $135,031 and working capital of $918,952, a ratio of 3.35 to 1. We have no bank loans or funded obligations, such current liabilities being the only charges ahead of common stock shares."

In a recent statement made by President Sutherland, net earnings for 1930 were placed at $240,126 or 80 cents a share on the 300,000 shares of common outstanding. During 1929 earnings were $388,428, or $1.29 a share.

PAPER AWARDS ANNOUNCED

(*Continued from page 27*)

STRAWBOARD

No. 404—40,000 pounds Strawboard. Flat, 26x38 inches, No. 50: Walker-Goulard-Plehn Company, 2.00 cents.

LINED STRAWBOARD

No. 405—10,000 pounds Lined Strawboard. Flat, 26x38 inches, No. 50: No bids.

LINED BOXBOARD

No. 406—80,000 pounds Lined Boxboard, lined one side; basis, 26x38 inches, No. 40. Flat, cut 24½x34 inches. Minimum order 36,000 pounds: Reese & Reese, Inc., 2.025 cents.

BINDERS BOARD, HARD ROLLED, NO. 2 QUALITY

No. 407—600,000 pounds Binders Board, Hard Rolled, No. 2 Quality. Flat, to trim 25x30 inches, Nos. 16, 18, 20, 25, 30, and 40. Minimum order 36,000 pounds: All bids rejected.

BINDERS BOARD, HARD ROLLED, BEST QUALITY

No. 408—300,000 pounds Binders Board, hard rolled, best quality. Flat, to trim 20x30 inches, and 22x28 inches, Nos. 18, 20, 25, 30, 35, 40 and 45: All bids rejected.

Raymond Bag Co. To Build New Plant

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 26, 1931.—Middletown business interests were assured this week of additional construction activities when it was stated that the contract for the erection of a new plant by the Raymond Bag Company, had been awarded in Middletown. Announcement of this fact was authorized by W. F. Lawrence, president of the company. Some time ago Mr. Lawrence purchased a tract of ample size for this purpose. The site is located just north of Middletown and is considered to be ideal.

Including the cost of land, the new bag mill will involve an expenditure of approximately $300,000, President Lawrence asserted. Mr. Lawrence also said the successful bidder for the construction work was Albert N. Highley Company of Cleveland, Ohio. It is planned to begin construction work within a few weeks, or as soon as the weather moderates, it is understood.

Obituary

Elmer Garrett

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 30, 1931—Elmer Garrett, member of one of the pioneer paper manufacturing families of the Keystone State, died at his home in Palmerton, Pa., on January 21, from heart disease. He was 65 years of age. Although in recent years Mr. Garrett has been linked with the distributive trade as sales representative for Wilkinson Brothers and the C. S. Garrett Corporation, he long was engaged in the manufacturing branch of the industry with the business founded by his father Edwin T. Garrett, owner of the Lansdowne, Pa., mills under that name.

He began his association with the industry as an employee of the Garrett-Buchanan Company, founded by an uncle, Sylvester S. Garrett, father of Sylvester S. Garrett, Jr., with whom he lived while attending the Millersburg Academy. Upon graduation he was taken into the firm, then known as Garrett and Buchanan, and became head of its bookkeeping department. Later he was associated with the firm of Garrett & Gregor, printers, for ten years.

On the death of his father, Edwin T. Garrett, he became an official of the Lansdowne mills, and on the sale of his interests he became president of the Garrett Paper Corporation, operating the Forest Mills, near Willistown, Pa., now owned by the Woodhead interests. Surviving are his brother, Harvey Garrett, his widow, two daughters, a son, and his cousin, Sylvester S. Garrett, who attended the funeral services.

Michael J. Argy

[FROM OUR REGULAR CORRESPONDENT]

NIAGARA FALLS N. Y., January 31, 1931—Michael J. Argy, superintendent of the Cliff Paper Company died this week at the Mercy Hospital, Buffalo, following an operation which resulted in complications. He was 63 years old and a native of Lawrence, Mass. He was the inventor of many devices used in the manufacture of paper and was widely known throughout the entire trade.

He started his career at Lawrence in a mill conducted by his father where he learned the angles of the paper business thoroughly and later on he served as superintendent of a number of the largest concerns in the country before going to the Cliff Paper Company in 1902 from Combined Locks, Wisconsin. Several of the inventions turned out by him are universally used in manufacturing paper and he had also gained a national reputation as an authority on matters dealing with the pulp and paper industry.

For a number of years he served as vice-president of the New York State Division of Paper Mill Superintendents and his accumulation of knowledge made him a valuable officer. Among the survivors is W. J. Argy, a son, at one time superintendent of the Harmon Paper Company, Brownville, but more recently with the Gould Paper Company, Lyons Falls.

Jediah Porter Jordan

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, MASS., February 1, 1931—Colonel Jediah Porter Jordan, proprietor of the Jordan Card and Paper Company of Boston, died at the Hart Private Hospital, Roxbury, Mass., Friday, two months prior to his eighty-fifth birthday. Colonel Jordan had been actively engaged in the paper industry for sixty-five years, up to January 1 last, and was lovingly spoken of as Dean of the trade. He was the founder of the Boston Paper Trade Association and was present at the head table at three last annual banquets.

Colonel Jordan was born March 29, 1846, at Raymond, Me. He was a veteran of the Civil War and saw service as sergeant-major in the Forty-second Massachusetts Volunteer Infantry and later had a commission in the Roxbury City Guard (later C O D Coast Artillery) when it was the best drilled unit in the State. He served on the late Governor John D. Long s staff as assistant quartermaster general, with the rank of colonel. He was almost the last veteran of Post 26, G. A. R., of Roxbury, of which he was a charter member and for many years commander and past commander of Post 88, G. A. R., of Quincy.

He had always continued his interest in military affairs, being a charter member of the Army and Navy Club of Boston, attending actively up to his last illness. He was a former president of the Roxbury Historical Society. As a Mason, he was a member of Mt. Vernon Chapter and a Knight Templar. At one time he represented Roxbury as Senator in the Massachusetts Legislature and ever maintained an interest in civic affairs.

Colonel Jordan was an energetic, courageous gentleman of the old school, beloved by all who knew him and respected by those with whom he disagreed.

He is survived by three sons, Robert A. Jordan and William M. Jordan, both of Boston, and Porter B. Jordan, of Berkeley, Cal., four grandchildren, six great grandchildren, and a sister, Abby F. Brown, of Melrose, Mass.

The funeral was held Sunday from the Meeting House of the Second Unitarian Society, Brookline, Mass., and interment was in the family lot at Forest Hills Cemetery. The paper trade was well represented among those attending the obsequies.

George R. Wallace

[FROM OUR REGULAR CORRESPONDENT]

FITCHBURG, MASS., February 1, 1931—Colonel George R. Wallace, president and treasurer of the Fitchburg Paper Company, died at his resident here Wednesday, aged 72, after a long illness. Ill health about ten years ago brought about his virtual retirement for wide business connections.

For many years he was an officer of banking and insurance institutions. Before the consolidation of the Fitchburg Railroad Company with the Boston and Maine Railroad he was president of the former. He later served as a director of the Boston and Maine.

Colonel Wallace always wielded much influence in political affairs of this section, although he held office for but a short time when he went to the State Senate in 1902. He acquired his military title when he was appointed to the staff of Governor Ames in 1887.

The parents of Colonel Wallace were descendants of New England's earliest families. He is survived by his widow, Mrs. Helen M. (Howland) Wallace, and four children: Mrs. Helen Wallace Richard of New York; George R. Wallace Jr.; Mrs. Joe V. Meigs, of Boston; and Mrs. Chester D. Heywood, of Worcester.

Harry H. Cook

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 2, 1931—Harry H. Cook, president and general manager of the Alexandria Paper Company, of Alexandria, Ind., died at Atlantic City, N. J., today, aged 49. Mr. Cook had been ill for the last eleven years. In 1919 he suffered a nervous breakdown while on a business trip in Northern Canada to purchase wood pulp for his organization. He was found two weeks later in a sanitarium in New York by his two sisters. He was the son of the late S. H. Cook, prominent Republican leader of Wisconsin, who died some years ago after amassing a fortune in the paper making business.

Rutter & McNaught, Inc., In New Offices

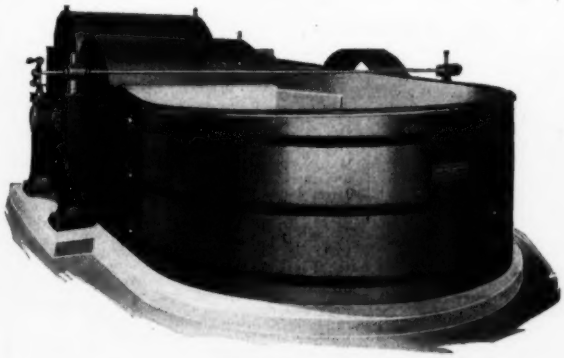
[FROM OUR REGULAR CORRESPONDENT]

BOSTON, MASS., February 2, 1931—One of the brightest and most cheerful offices in the Boston paper trade is now occupied by Rutter & McNaught since taking on the addition to their former location at 185 Summer street. They have also added a larger truck to their delivery service.

Cotton and Paper Rolls
Super Calenders
Friction Calenders
Embossing Calenders
Hydraulic Presses and Pumps

Successors to the Granger Foundry & Machine Co.

The Textile-Finishing Machinery Company
PROVIDENCE, R. I.



Putting Production into *High Gear*

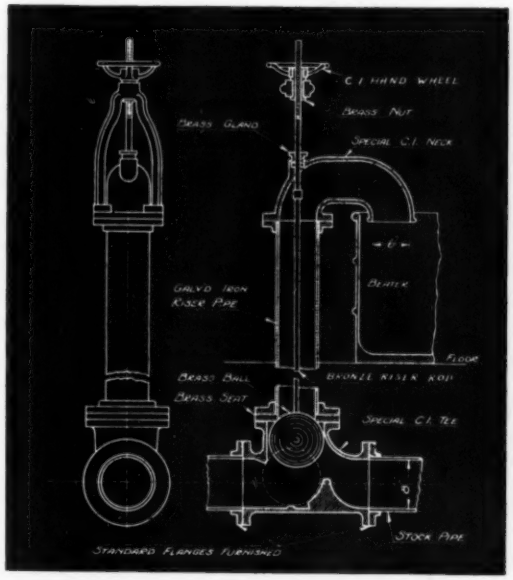
In scores of paper mills whose annual schedules total millions of tons, Dayton High Speed Beaters are famous for their power, endurance and performance. A heavier furnish—faster beating—less jordaning—less power required—these proven features will put your production in high gear, too. Shown above: Dayton High Speed Beater with cypress tub, 61" dia. by 60" face. Nine of these recently went into a prominent mill, because Dayton specializes on the right beater for the particular task at hand. Years of technical experience—knowledge of paper making—prestige of serving the world's largest mills—these are at your command when you consult this organization.

THE DAYTON BEATER & HOIST CO., DAYTON, OHIO

Eastern Representatives
Mansfield, Bolton & Kent
501 Fifth Ave., New York City

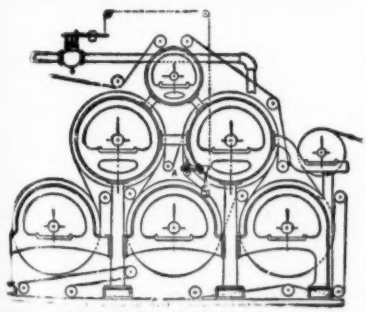
Western Representative
F. H. Godfrey
415 Lenora St., Seattle, Wash.

DAYTON
High Speed Beaters



BALL VALVE HYDRANT
FOR STOCK CIRCULATING SYSTEM
MANUFACTURED BY
TICONDEROGA MACHINE WORKS
TICONDEROGA, N. Y.
SEND FOR BULLETIN NO. 2

The Pickles Drying Regulator



WE ARE SAFE IN OUR PROPOSITION
YOU'LL MAKE NO MISTAKE IN ACCEPTING IT

Pickles Drying Regulator

will do everything we claim for it and more. The test costs you nothing until you are satisfied. Many mills tried one and now have every machine equipped. Write for list of users and other information.

W. F. PICKLES **Buckland, Conn.**

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JANUARY 31, 1931

SUMMARY

Cigarette paper .....35 bls., 55 cs.
Paper hangings .....7 bls., 1 cs.
News print .....2876 rolls
Printing paper .....167 rolls, 41 bls., 2 cs.
Wrapping paper ..... 27 bls.
Drawing paper ..... 37 cs.
Filter paper .....2 bls., 50 cs.
Gummed paper ..... 5 cs.
Coated paper ..... 17 cs.
Coated tissue paper ..... 3 cs.
Decalcomania paper ..... 24 cs.
Baryta coated paper ..... 5 cs.
Basic paper ..... 35 cs.
Gold coated paper ..... 10 cs.
Metal coated paper ..... 10 cs.
Surface coated paper ..... 7 cs.
Colored paper .....6 bls., 1 cs.
Writing paper ..... 2 cs.
Carbon paper ..... 1 cs.
Press paper ..... 1 cs.
Shelf paper ..... 2 cs.
Card board ..... 3 cs.
Miscellaneous paper ....283 rolls, 116 bls., 105 cs.

WALL PAPER

R. F. Downing & Co., Kwansi Maru, Kobe, 31 bls.
A. L. Diament & Co., Majestic, Southampton, 6 cs.
American Express Co., Berlin, Bremen, 3 cs.
Irving Trust Co., Deutschland, Hamburg, 46 cs. (samples)
F. A. Binder, Deutschland, Hamburg, 3 bls.
S. Stern Stiner & Co., Deutschland, Hamburg, 1 bl.

PAPER HANGINGS

W. H. S. Lloyd & Co., American Shipper, London, 1 cs., 7 bls.

NEWS PRINT

Perkins Goodwin & Co., Pres. Roosevelt, Hamburg, 80 rolls.
Parsons & Whittemore, Inc., Pres. Roosevelt, Hamburg, 297 rolls.
J. Madden Corp., Pres. Roosevelt, Hamburg, 89 rolls.
J. Madden Corp., Hannover, Bremen, 1014 rolls.
Stora Kopperberg Corp., Drottningholm, Gothenburg, 110 rolls.
Perkins Goodwin & Co., Deutschland, Hamburg, 504 rolls.
Baldwin Paper Co., Deutschland, Hamburg, 565 rolls.
J. Madden Corp., Deutschland, Hamburg, 28 rolls.
M. Douglas & Co., Deutschland, Hamburg, 189 rolls.

PRINTING PAPER

Keuffel & Esser Co., Pres. Roosevelt, Hamburg, 93 rolls.
Winsor Newton Co., Lancastria, Southampton, 2 cs.
Globe Shipping Co., Deutschland, Hambrug, 74 rolls, 41 bls.

WRAPPING PAPER

Westchester Paper Co., Inc., Drottningholm, Gothenburg, 27 bls.

DRAWING PAPER

Keuffel & Esser Co., Pres. Roosevelt, Hamburg, 37 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Majestic, Southampton, 2 bls., 4 cs.
E. Fougera & Co., Majestic, Southampton, 46 cs.

GUMMED PAPER

Heemsoth Basse & Co., Deutschland, Hamburg, 5 cs.

COATED PAPER

Bank of American Natl. Assn., Deutschland, Hamburg, 17 cs.

COATED TISSUE PAPER

W. J. Byrnes & Co., Lancastria, Southampton, 1 cs.
W. J. Byrnes & Co., Majestic, Southampton, 2 cs.

DECALCOMANIA PAPER

C. W. Sellers, Europa, Bremen, 15 cs.
C. W. Sellers, Deutschland, Hamburg, 7 cs.
Phoenix Shipping Co., Berlin, Bremen, 2 cs.

BARYTA COATED PAPER

J. H. Schroeder Banking Corp., Europa, Bremen, 5 cs.

BASIC PAPER

Globe Shipping Co., Berlin, Bremen, 35 cs.

GOLD COATED PAPER

F. Murray Hill, Berlin, Bremen, 10 cs.

METAL COATED PAPER

Globe Shipping Co., Deutschland, Hamburg, 10 cs.

SURFACE COATED PAPER

International F'd'g Co., Deutschland, Hamburg, 5 cs.
Phoenix Shipping Co., Deutschland, Hamburg, 2 cs.

COLORED PAPER

Quality Art Novelty Co., Berlin, Bremen, 6 bls.
H. Lange, Berlin, Bremen, 1 cs.

WRITING PAPER

Japan Paper Co., De Grasse, Havre, 1 cs.
Coenca Morrison Co., De Grasse, Havre, 1 cs.

CARBON PAPER

W. J. Byrnes Co., Lancastria, Southampton, 1 cs.

PRESS PAPER

Rishardson Bros., Laurentic, Liverpool, 1 cs.

SHELF PAPER

Kaplan Bros., Berlin, Bremen, 2 cs.

CARD BOARD

American Express Co., Deutschland, Hamburg, 3 cs.

MISCELLANEOUS PAPER

R. Wilson Paper Corp., California, Glasgow, 28 rolls.
International F'd'g Co., California, Glasgow, 10 cs.
B. Gilliland & Co., Hellig Olav, Oslo, 72 rolls.
T. N. Fairbanks Co., Asuka Maru, Yokohama, 5 cs.
P. C. Kuyper, Pres. Roosevelt, Hamburg, 1 cs.
The Borregaard Co., Inc., Drottningholm, Gothenburg, 182 rolls, 99 bls.
Walker Goulard Plehn Co., Drottningholm, Gothenburg, 14 bls.
Japan Import & Export Commission Co., Kwansi Maru, Kobe, 8 cs.
S. F. Berliner, Kwansi Maru, Kobe, 8 cs.
Iwai & Co., Kwansi Maru, Kobe, 10 cs.
F. C. Strype, Kwansi Maru, Yokohama, 8 cs.
Keller Dorian Paper Co., Majestic, Southampton, 20 cs.
Japan Paper Co., Tai Yin, Yokohama, 24 cs.
International F'd'g Co., Tai Yin, Yokohama, 1 cs.
P. J. Schweitzer, De Grasse, Havre, 2 cs.
Coenca Morrison Co., De Grasse, Havre, 8 cs.
H. Reeve Angel & Co., Inc., Deutschland, Hamburg, 3 bls. (samples)

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Sarcoxie, ——, 52 bls. rags.
Brown Bros. & Co., California, Glasgow, 71 bls. rags.
Darmstadt Scott & Courtney, Asuka Maru, Shanghai, 75 bls. rags.
G. W. Millar & Co., Hannover, Bremen, 115 bls. bagging.
Irving Trust Co., Hannover, Bremen, 161 bls. cotton nappers.
Darmstadt Scott & Courtney, Ambridge, Antwerp, 34 bls. cotton waste.
E. J. Keller Co., Inc., Deutschland, ——, 47 bls. rags.
E. J. Keller Co., Inc., Cabo, Santa Maria, 137 bls. bagging.
Irving Trust Co., Deutschland, Hamburg, 75 bls. cotton nappers.
Banco Com'l Italiane Trust Co., Savoia, Genoa, 182 bls. bagging.

OLD ROPE

Chemical Bank & Trust Co., Hellig Olav, Copenhagen, 40 coils.
E. J. Keller Co., Inc., Lepanto, ——, 65 coils

CHINA CLAY

S. T. Blandford Co., Laurentic, Liverpool, 125 casks.

WOOD PULP

Johaneson Wales & Sparre, Inc., Hellig Olav, Copenhagen, 200 bls. sulphite, 40 tons.
M. Gottesman & Co., Inc., Coahoma County, Rotterdam, 525 bls. sulphite, 52 tons.
M. Gottesman & Co., Inc., Drottningholm, Gothenburg, 600 bls. sulphite.
Parsons & Whittemore, Inc., Drottningholm, Gothenburg, 360 bls. sulphate.
E. M. Sergeant & Co., Drottningholm, Gothenburg, 299 bls. kraft pulp.
Price & Pierce, Ltd., Drottningholm, Gothenburg, 125 bls. wood pulp.
Russell McCandless, Drottningholm, Gothenburg, 300 bls. dry chemical pulp.
Perkins Goodwin & Co., Drottningholm, Gothenburg, 127 bls. sulphite.
Bulkley Dunton & Co., Ragnhildsholm, ——, 21200 bls. wood pulp.
Lagerloef Trading Co., Lagaholm, Kotka, 1003 bls. sulphite; 170 bls. sulphate.
Castle & Overton, Inc., Deutschland, Hamburg, 135 bls. wood pulp, 27 tons.

WOOD FLOUR

State Chemical Co., Coahoma County, Rotterdam, 88 bags, 5110 kilos.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 31, 1931

A. Hurst & Co., Sarcoxie, Havre, 38 bls. rags.
J. M. Hagy Waste Works, Sarcoxie, Dunkirk, 25 bls. rags.
Hoffman Lion Mills, Asuka Maru, Kobe, 65 bls rags.
Belgam Corp., Asuka Maru, Kobe, 40 bls. rags
Chemical Bank & Trust Co., Hannover, Hamburg, 83 bls. rags.
Castle & Overton, Inc., Hannover, Hamburg, 110 bls. rags; 1900 bls. wood pulp.
F. Weber & Co., Hannover, Bremen, 48 bls. card board.
International Accep. Bank, Hannover, Bremen, 187 bls. rags.
——, Hannover, Bremen, 147 bls. news print.
F. Stern, Ambridge, Antwerp, 48 bls. rags.
Irving Trust Co., Ambridge, Antwerp, 30 bls. cotton waste.
E. J. Keller Co., Inc., Ambridge, ——, 231 coils old rope.
Lagerloef Trading Co., Lagaholm, Kotka, 299 bls. 629 rolls wood pulp boards; 6512 bls. sulphite; 762 bls. sulphate.
E. J. Keller Co., Inc., Sacandaga, ——, 301 bls. rags.
E. J. Keller Co., Inc., Natirar, ——, 714 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING JANUARY 31, 1931

Johaneson Wales & Sparre, Inc., Hannover, Hamburg, 3097 bls. wood pulp.
Harriman Bros., Hannover, Hamburg, 170 bls. wood pulp.
Parsons & Whittemore, Inc., Hannover, Hamburg, 1220 bls. wood pulp.
Castle & Overton, Inc., Hannover, Hamburg, 2300 bls. wood pulp.
Atterbury Bros. Inc., Hannover, Hamburg, 170 bls. wood pulp.

(Continued on page 72)

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY

CANTON, MASS.

Woolen manufacturers since 1856

ALLOY STEEL PRODUCTS CO.

A Subsidiary of Sturtevant Mill Company
103 CLAYTON ST., DORCHESTER, BOSTON, MASS.

CHROME NICKEL ALLOY SULPHITE MILL EQUIPMENT

RELIEF and ACID VALVES
EXPERIMENTAL DIGESTERS
WELDED and RIVETED TANKS
DIGESTER STRAINERS
FINISHED FITTINGS
PIPE FABRICATION
WELDED BLOW PIPE
BLOW PIT BOTTOMS
HEAT EXCHANGERS
BOLTS and NUTS

We design and build special equipment to meet your requirements in ALLEGHENY METAL, KA2, KA2S, KA4.

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SODA ASH
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Liquid Chlorine
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In tank cars and multiple unit cars.
Write for Prices

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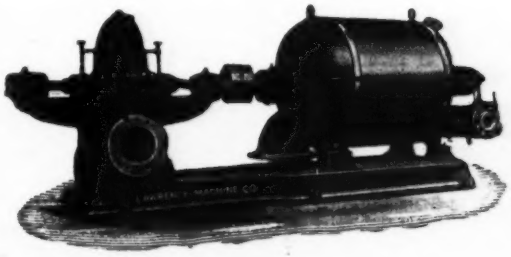
Horizontally Split Casing Double Suction Pumps

LAWRENCE PUMPS

The name protects and guarantees you satisfaction.

We are the original designers and builders of the LAWRENCE PUMP.



Lawrence pumps for all conditions and services. Forty-four years of practical experience with centrifugal pump development places us among the leaders. Our efforts have been rewarded by the acceptance of our product in general.

Thousands of installations and the successful performance of our pumps should be sufficient proof of our ability to handle your pumping problems. Our engineering force is at your command.

Have only Lawrence Pumps, manufactured by the

Lawrence Machine & Pump Company
361 Market St. Lawrence, Mass.

Imports of Paper and Paper Stock

(Continued from page 70)

Irving Trust Co., Hannover, Bremen, 736 bls. wood pulp.
Parsons & Whittemore, Inc., Boren, ——, 1650 bls. sulphate.

BOSTON IMPORTS

WEEK ENDING JANUARY 31, 1931

Ellitt Addressing Machine Co., Asuka Maru, Yokohama, 8 cs. paper.
Darmstadt Scott & Courtney, Ambridge, Antwerp, 81 bls. bagging.

International Trust Co., Ambridge, Antwerp, 43 bls. bagging.
E. Butterworth & Co., Inc., Ambridge, Antwerp, 47 bls. rags; 94 bls. flax waste; 42 bags old pickers.
D. O'Donoghue, Ambridge, Antwerp, 4 bls. rags.
Irving Trust Co., Ambridge, Antwerp, 87 bls. bagging.
B. K. Elliott, Ambridge, Antwerp, 42 cs. paper.
Brown Bros. & Co., Ambridge, Antwerp, 80 coils old rope.
W. A. Feinberg & Sons, Inc., Kwansi Maru, Kobe, 50 bls. rags.

NORFOLK IMPORTS

WEEK ENDING JANUARY 31, 1931

Amtorg Trading Corp., Hannover, Hamburg, 679 bls. rags.
Old Dominion Paper Co., Hannover, Bremen, 127 rolls news print.
Lagerloef Trading Co., Lagaholm, Helsingfors, 1524 bls. mechanical pulp.
Lagerloef Trading Co., Lagaholm, Kotka, 14234 bls. sulphite; 483 bls. sulphate; 376 bls. wood pulp boards.

Emerson Mfg. Co. Buys Dillon Machine Co.

LAWRENCE, Mass., January 26, 1931.—The Emerson Manufacturing Company, manufacturer of paper making machinery has purchased all the property of the Dillon Machine Company of this city, its patterns, machine tools, records and drawings, good will, patents and all other property owned by them.

Founded in 1895 by Peter Dillon, the Dillon Machine Company have been for many years widely known builders of paper mill machinery of improved design. They patented and built various specialties which met with favor in the paper trade and are now being widely used by many of the leading mills in this country and abroad. This includes the well known Dillon calendar doctors and feeds, the Dillon beaters, jordans, pumps and cutters. The Dillon Machine Company is also the builder of the patented Brennan folders.

The Dillon Machine Company, under the supervision of William Morrison, Jr. its former president and treasurer who was with the Dillon Machine Company for many years, will be operated as a division of the Emerson Manufacturing Company who will continue the business in all respects, thereby making it possible for its customers to obtain new equipment of the Dillon type, as well as replacement parts for all Dillon machinery now in service.

Its purchase of the Dillon Machine Company will add Cutters, Doctors, Folders and Pumps to the highly regarded line of paper making machinery as built by the Emerson Manufacturing Company since 1888.

Water Power Action Scheduled

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., January 31, 1931.—The trial of the action started several months ago by Knowlton Brothers against the Beebee Island Power Corporation to compel fulfilling terms of a contract to develop water power is scheduled to take place during the latter part of February. The local paper company now asks for $200,000 damages because of heavy hydro-electricity operating expenses in addition to the demand that the power development shall be carried out. The trial of the case has been delayed for some time in an effort to come to an amicable agreement between both parties and several conferences were held with the Carlisle interests relative to taking over the poject. It is said, however, that the situation has not been cleared and Knowlton Brothers now plans to continue with its action.

It is understood that in 1919 the Beebee Power Corporation entered into an agreement with a number of manufacturing concerns to develop the power on Beebee Island and each was to benefit from it through deriving additional operating power. The development was started but after a few weeks was stopped because of high construction costs and the firm of Knowlton Brothers since that time has tried on numerous occasions to have the work renewed. A proposition was recently made by the Niagara Hudson Power Company to take over the development but a satisfactory agreement could not be reached and the plan was abandoned.

A New Towel Product

The Hoberg Paper & Fibre Company opens the new year with a brand new paper towel product. This nationally known organization has been manufacturing paper towels from the day the product first appeared to take the place of the linen towel in institution and public building lavatories. It is peculiarly qualified to produce a product which meets new conditions in paper towel demand.

It is generally recognized that two towels are used by the average individual in drying hands. Where towels are dispensed singly it was therefore necessary to draw two towels from the dispenser and place one over the other, or use two and sometimes three and four towels individually to obtain satisfactory drying of hands.

Hoberg's new Evergreen Double Duty Towel is really a single towel 10 x 20 inches. It is dispensed from the cabinet dispenser folded to a 10 x 10 inch size offering two hundred square inches of drying and absorbing strength, folded to a double thickness in condition for instant application to the hands.

The Evergreen Double Duty Towel is cross creped, that is, it is creped both laterally and longitudinally, thus obtaining a cloth-like effect which is peculiarly effective—soft, yet extremely strong and absorbent.

The new towel comes in both bleached white and manila. It is wrapped in an attractive green wrapper with the usual attractive Evergreen label design.

A new cabinet has been designed for this particular towel. This dispenser fits snugly to wall or partition with its bulk extending up and down rather than from back to front. Cabinets are in both white and green enamel.

The new towels and cabinets are now in the hands of Hoberg distributors. Samples will be supplied upon request.

Bagg Estate Valued at $250,000

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., January 31, 1931—The estate of the late Matthew M. Bagg, retired paper manufacturer, is placed at about $250,000, according to the terms of his will executed in July, 1930. Public bequests amount to $45,400 and many of his friends in this city are also remembered. The larger bequest is a gift of $15,000 to the Y. M. C. A., and the House of the Good Samaritan is benefitted to the extent of $5,000. A bequest of $5,400 is made to the Faxton Hospital, Utica, and a number of the local churches are bequeathed certain amounts. All bequests are not to be allowed, however, until after the death of the widow, who is given a life use of the residuary estate. The will expresses clearly the philanthropic and charitable disposition of the deceased manufacturer, who amassed his fortune while in the paper manufacturing business. When he came to this city in 1888 he assumed the management of the old Ontario Paper Mills at Glen Park and later he was made superintendent of the Newton Falls Paper Company. Later on he became a partner with J. M. Gamble in conducting the business of the Brownville Board Company, prior to his retirement.

QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

The Borregaard Company
Incorporated
200 FIFTH AVENUE NEW YORK, N. Y.

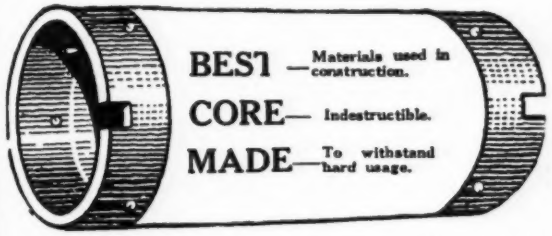
SHIPPING INSURANCE

The Use of

ELIXMAN CORES

protects your rolls and insures their delivery to your customer in perfect condition. They eliminate claims for damages.

SHIPPING INSURANCE



Your two sources of supply are

Canadian Elixman Company
HAMILTON, ONTARIO

Elixman Paper Core Company
CORINTH, N. Y.

WOOD PULP
AGENTS

PRICE & PIERCE, Ltd.,

17 EAST 42ND ST.
NEW YORK

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED
and
MACHINE FINISHED BOOK
and LITHOGRAPHIC
PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers.

also

Bleached Spruce Sulphite and Soda, Kraft Pulp

230 Park Ave. New York
35 East Wacker Drive Chicago
503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, February 4, 1931

Conditions in the local paper market during the past week were fairly satisfactory. Demand for the various standard grades of paper was moderately persistent. Supplies continue to move into consumption in normal volume for the season. There are a number of inquiries around and prospects for the future are encouraging. The price situation is practically unchanged.

Production of news print in the United States and Canada was maintained at approximately 60 per cent of capacity during the past week, according to information gathered by the News Print Service Bureau. Shipments were slightly off. Efforts are still being made to stabilize the price situation, although progress is apparently very slow.

Some improvement was noticed in the paper board market. Demand for box board is slightly better and the mills are now operating at from 65 to 70 per cent of capacity, which compares favorably with the schedule maintained during the past few weeks. No radical price changes have been recorded. The fine paper market is fairly steady and book papers are in seasonal request. The coarse paper situation is showing some signs of betterment.

Mechanical Pulp

The ground wood market is exhibiting a strong undertone. Offerings of both imported and domestic mechanical pulp are limited, as production has been curtailed somewhat, and accumulations are not excessive. Inquiries for future needs are fairly numerous. Prices are steady to firm and there is little talk of concessions around at present.

Chemical Pulp

Demand for the various grades of imported and domestic chemical pulp is fairly persistent, and there is a better feeling in the industry than for some time past. Contract shipments are going forward to the paper mills in fairly satisfactory volume for the time of year. There have been no further price changes reported of late.

Old Rope and Bagging

The old rope market continues quiet. Paper mill request for domestic and foreign old rope is light for the time being. Small mixed rope is going forward in fair volume. Prices remain unchanged, in most instances. The bagging market was moderately active. Gunny bagging is holding up well and scrap bagging continues steady and unchanged.

Rags

Trading in the domestic rag market was more lively. Cotton cuttings are arousing greater interest. Demand for roofing grades is beginning to broaden. Mixed rags are also moving in slightly better volume. Prices of the various grades of domestic rags are somewhat steadier. The imported rag market continues dull, with prices generally unaltered.

Waste Paper

With the board mills operating at greater percentage of rating, the outlook for the lower grades of paper stock is improving. Strictly folded news and mixed paper are in somewhat better demand. The price situation remains unsatisfactory, however. The better grades of paper stock are still in excellent request, especially hard and soft white shavings.

Twine

No radical changes were recorded in the local twine market. Most of the business transacted was along routine lines. Supplies are moving into consumption in fairly satisfactory volume for the time of year. Prices are generally holding to previously quoted levels, although competition is keen, and there have been some reports of shading on extra desirable orders.

R. R. Wason Heads Manning, Maxwell & Moore

On December 31 R. R. Wason was elected president of Manning, Maxwell & Moore, Inc. He succeeded C. A. Moore who had been the president of this company since April, 1927. Mr. Moore retains his contact with the company as chairman of the board of directors.

Mr. Wason also was elected president of the Consolidated Ashcroft Hancock Company, Inc., one of the large subsidiaries of Manning, Maxwell & Moore, Inc. They manufacture Ashcroft gauges, Hancock valves and American instruments, with plants located in Bridgeport, Conn., and Boston, Mass.

Mr. Wason's entire background has had to do with merchandising and management problems. He was for many years director of merchandising of Proctor & Collier Company in Cincinnati, where he worked on the problems of many large middle western manufacturers.

Early in 1929 Mr. Wason came east to represent banking interests in the Clark Lighter Company.

Mr. Wason will make his headquarters in the main office of Manning, Maxwell & Moore, in New York.

Other plants owned by Manning, Maxwell & Moore, Inc., are the Putnam Machine Works, Fitchburg, Mass., where heavy machine tools have been manufactured for over ninety-three years, and the Shaw Crane Works, Muskegon, Mich., founded in 1891, where Shaw Overhead Electric Traveling Cranes are built. Manning, Maxwell & Moore, Inc., also operates a Railway and Mill Supply Division with warehouse in Jersey City, N. J.

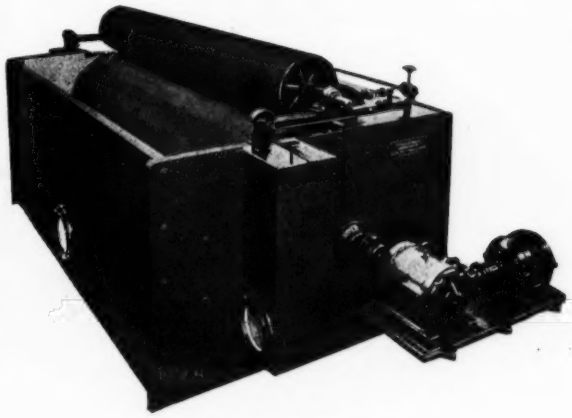
Charles S. Billman Dead

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 26, 1931—Charles S. Billman, widely-known in trade circles, died the latter part of last week at his home in the Van Deman Apartments, Salem and Yale Avenues, of which he had been the owner for a number of years.

Mr. Billman, some years ago was Secretary to the Weston Paper Company of this city, having previously been an official of the Miami Commercial College. In more recent years he was Secretary of the West Side Building and Loan Association, and he likewise was a director in the Union Trust Company. These institutions, as well as the downtown branch of the West Side Association on Third street, near Main, were closed during the funeral which was held from his late home Tuesday afternoon. He was 69 years old and his death followed a one week's illness from heart trouble. Mr. Billman is survived by two daughters, and a son, Charles Billman, Jr. of New York City.

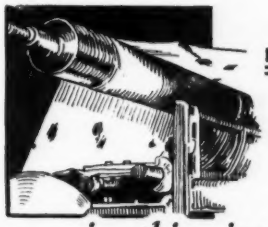
The Glens Falls Decker



MODERN DESIGN
SUBSTANTIAL CONSTRUCTION
PERFECT CONTROL

BUILT IN SIZES 36" x 72" to 48" x 132"

GLENS FALLS MACHINE WORKS
GLENS FALLS, N. Y.



ELIMINATE BREAKS

— in this simple, economical way

Breaks are troublesome and are often due to slime. One mill using Quartz Quality Silicate discovered that a special silicate treatment weekly of the white water dissolved slime and eliminated breaks.

At this mill's machine time rates the loss due to breaks of this nature averaged $2.35 per day or $14.10 per week. The cost of the silicate treatment was $1.40, so that a saving of $12.70 resulted.

In requesting further information please refer to PQ-51-TZ.

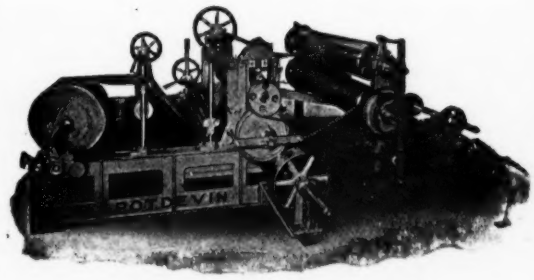
Philadelphia Quartz Co.,
General Offices and Laboratory
121 S. THIRD ST., PHILADELPHIA
Chicago Office: 205 W. Wacker Drive
1831—*BEGINNING ANOTHER CENTURY*—1931

POTDEVIN

PAPER WAXING MACHINERY

Three Widths—52" - 64" - 80"

LIGHT OR HEAVY COATING
WET OR DRY WAX
ONE OR BOTH SIDES



POTDEVIN MACHINE CO.
1223 38th Street, Dept. 4, Brooklyn, N. Y., U. S. A.
Phones: Windsor 1700, 1701, 1702

CHROME NICKEL STEEL DRAINER BOTTOMS

Blow Pit with Chrome Nickel Steel Bottom

Use the new type of acid resisting, non-corrosive metal bottoms in your Blow Pits to obtain lasting endurance, uniform drainage at all times and no loss of stock.

Write us for full information on any Paper Industry tank requirement.

KALAMAZOO TANK AND SILO CO.
KALAMAZOO, MICHIGAN

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, February 4, 1931.

BLANC FIXE.—The blanc fixe market was moderately active during the past week. Demand for both the pulp and the powder is mostly seasonal. The pulp is still quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. Demand from the mills is fairly persistent. Contract shipments are moving in satisfactory volume. Prices remain unchanged. Bleaching powder is selling at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—The casein market was quiet. No further price changes were reported. Domestic standard ground is quoted at 8½ cents and finely ground at 12 cents per pound; while Argentine standard ground is selling at 11 cents and finely ground at 12 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Conditions in the caustic soda market are unchanged. Demand continues active at the recently revised prices. Solid caustic soda is quoted at from $2.50 to $2.55, while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is exhibiting a strong undertone. The contract movement is well up to average. Prices remain unchanged. Imported china clay is quoted at from $13 to $21 per ton, while domestic paper making clay is still selling at from $8 to $13 per ton, at mine.

CHLORINE.—Trading in the chlorine market was rather light. Shipments against contract, however, are going forward to the mills in good volume. Prices are holding to the recently revised schedule. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The position of the rosin market is unchanged. Prices are steady. The grades of gum rosin used in the paper mills are still quoted at from $4.85 to $5.20 per 280 pounds, in barrels, at yards. Wood rosin is selling at $3.80 per 280 pounds, in car lots, at southern shipping points.

SALT CAKE.—Supplies of salt cake are going forward to the paper mills in good volume. Demand is persistent and inquiries are fairly numerous. Salt cake is quoted at from $16 to $17; German salt cake at from $15.50 to $16; and chrome salt cake at from $14 to $15 per ton, in bulk, at works.

SODA ASH.—Some improvement was noticed in the soda ash market. Prices are more stable than for some time past and a good volume of orders are being booked. Contract quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.00; in bags, $1.15; and in barrels, $1.38.

STARCH—The starch market was rather quiet during the past week. Contract shipments are moving in a normal manner for the season. Prices declined slightly from former levels. Special paper making starch is quoted at $3.12, in bags; and at $3.39 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Paper mill demand for sulphate of alumina is satisfactory. Production is being maintained in sufficient volume to take care of current needs. Commercial grades are quoted at from $1.25 to $1.40; and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is in a sound position. Prices remain unchanged. Sulphur is quoted at $18 per long ton, at mine, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market was along routine lines. The contract movement is about normal. Prices remain unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	6.75	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	6.75	@11.00
Book, Cased—		
S. & S. C.	5.50	@ —
M. F.	5.25	@ —
Coated and Enamel	7.00	@10.50
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.65	@ .67½
Anti-Tarnish M G only	.65	@ .70
Colored	.70	@ .90
White No. 2	.55	@ .57½
Kraft	.65	@ .70
Manila	.55	@ .57½
Kraft—		
No. 1 Domestic	4.25	@ 5.30
No. 2 Domestic	3.00	@ 3.75
Southern	3.00	@ 3.75
Imported	6.00	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Butchers	3.37½	@ —
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75
Common Bogus	1.50	@ 3.00
Screenings	2.00	@ 3.00
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs., No. 1	.09¾	@ —
No. 2	.11¼	@ —
Bleached, basis 20 lbs.	.11¾	@ —
(Delivered New York)		
News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	32.50	@35.00
Straw	40.00	@45.00
Chip	30.00	@32.00
Binders' Boards	65.00	@70.00
Standard Test Jute Liner	40.00	@42.00
Sgl. Mla. Lt. Chip. (F. o. b. Mill)	42.50	@ —
Wood Pulp Boards	70.00	@80.00

Mechanical Pulp
(On Dock)

No. 1 Imported—		
Moist	28.00	@32.00
Dry	30.00	@34.00
(F. o. b. Mill)		
No. 1 Domestic	28.00	@34.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.00	@ 4.25
Easy Bleaching	2.60	@ 2.80
No. 1 strong unbleached	2.00	@ 2.65
Mitscherlich unbleached	2.15	@ 2.70
No. 2 strong unbleached	1.95	@ 2.05
No. 1 Kraft	1.50	@ 1.75
No. 2 Kraft	1.40	@ 1.55
Sulphate—		
Bleached (F. o. b. Pulp Mill)	3.00	@ 3.50
Sulphite (Domestic)—		
Bleached	2.40	@ 4.75
Easy Bleaching Sulphite	2.55	@ 2.75
News Sulphite	2.35	@ 2.60
Mitscherlich	2.50	@ 3.25
Kraft (Domestic)	1.60	@ 2.75
Soda Bleached	2.75	@ 2.90

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	8.00	@ 8.50
New White, No. 2	7.00	@ 7.25
Silesias No. 1	6.00	@ 6.50
New Unbleached	8.00	@ 8.50
New Blue Prints	5.00	@ 5.50
New Soft Blacks	4.00	@ 4.50
Blue Overall	6.00	@ 6.25
Washables	3.75	@ 4.00
Fancy	4.00	@ 4.50
Mixed Khaki Cuttings	4.25	@ 5.25
Pink Corset Cuttings	6.50	@ 7.00
O. D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.00	@ 3.50
New Mixed Blacks	3.00	@ 3.25

Old Rags

White, No. 1—		
Repacked	5.25	@ 5.75
Miscellaneous	4.25	@ 4.75
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.30	@ 2.50
St. Soiled, White	1.50	@ 1.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.65	@ 1.85
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.25	@ 1.30
No. 1	1.25	@ 1.30
No. 2	.90	@ 1.00
No. 3	.70	@ .80
No. 4	.65	@ .70
No. 5A	.50	@ .60

Foreign Rags
New Rags

New Dark Cuttings	2.15	@ 2.40
New Mixed Cuttings	2.25	@ 2.50
New Light Silesias	5.75	@ 6.25
Light Flannelettes	6.25	@ 6.75
Unbleached Cuttings	7.50	@ 8.00
New White Cuttings	7.25	@ 7.75
New Light Oxfords	5.75	@ 6.25
New Light Prints	4.25	@ 4.75

Old Rags

No. 1 White Linens	7.00	@ 7.50
No. 2 White Linens	5.50	@ 6.00
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	2.50	@ 3.00
No. 1 White Cotton	5.00	@ 5.50
No. 2 White Cotton	4.00	@ 4.50
No. 3 White Cotton	2.75	@ 3.75
No. 4 White Cotton	1.60	@ 1.75
Extra Light Prints	2.50	@ 2.75
Ord. Light Prints	2.10	@ 2.25
Med. Light Prints	1.65	@ 1.75
Dutch Blue Cottons	1.90	@ 2.10
French Blue Linens	2.65	@ 2.75
German Blue Linens	2.25	@ 2.40
German Blue Cottons	1.75	@ 1.85
Checks and Blues	1.60	@ 1.75
Lindsay Garments	1.16	@ 1.20
Dark Cottons	.80	@ .90
Old Shopperies	.75	@ .80
New Shopperies	.75	@ .80
French Blues	1.80	@ 1.96

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.80
Domestic	1.65	@ 1.80
Wool Tares, light	1.30	@ 1.40
Wool Tares, heavy	1.35	@ 1.40
Bright Bagging	1.30	@ 1.35
Small Mixed Rope	.90	@ 1.00
Manila Rope—		
Foreign	2.50	@ 2.60
Domestic	2.75	@ 300
New Burlap Cut	2.25	@ 2.50
Hessian Jute Threads—		
Foreign	2.60	@ 2.75
Domestic	2.80	@ 3.00

Old Waste Papers
(F. o. b. New York)

Shavings—		
Hard, white, No. 1	2.75	@ 2.85
Hard White, No. 2	2.30	@ 2.40
Soft, white, No. 1	2.50	@ 2.60
White envelope cuttings	2.95	@ 3.05
Flat Stock—		
Stitchless	.90	@ 1.00
Overissue Mag.	.90	@ 1.00
Solid Flat Book	.75	@ .85
Crumpled No. 1	.60	@ .70
Solid Book Ledger	1.90	@ 2.00
Ledger Stock	.80	@ .90
New B. B. Chips	.20	@ .30
Manilas—		
New Env. Cut	2.00	@ 2.20
New Cuttings	1.50	1.65
Extra No. 1 old	1.25	@ 1.35
Print	.50	@ .60
Bogus Wrapper	.50	@ .60
Container	.25	@ .30
Old Kraft Machine—		
Compressed bales	1.20	@ 1.30
News—		
No. 1 White News	1.70	@ 1.80
Strictly Overissue	.40	@ .45
Strictly Folded	.30	@ .35
No. 1 Mixed Paper	.15	@ .20
Common Paper	Nominal	

Starch

A SIMPLE change in the manufacturing process often results in a pronounced decrease in cost of production.

Paper Mills use Starch for sizing to produce better and stronger sheets with lower cost of manufacture.

Our SPECIAL PAPER brand, furnished in either Pearl or Powdered form for beater-sizing, increases strength of sheet and gives improved finish.

Our FOX HEAD brand for top-sizing is more economical than all glue-size.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York City

FARREL-BIRMINGHAM
COMPANY INC.
50 STATE ST., ANSONIA, CONN.

PAPER MACHINERY

CALENDERS: Board
CALENDERS: Paper
CALIPERS: Roll
GRINDING MACHINES: Roll
PRESSES: Hydraulic
Calender Roll Recovering
Pulp Dehydrating

ROLLS: Chilled Iron, Dry Sand, Gray Iron, Alloy Iron, Steel
For: Calender Stacks
Board Calenders
Super-Calenders
Glassine Calenders
Friction Rolls
Breaker Rolls
Smoothing Rolls
Creping Rolls
Plater Rolls
Cutting Machines
Paraffining and Waxing Machines
Saturating Machines
Silicating Machines
Miscellaneous Special Purposes

TRANSMISSION MACHINERY
Gears, Cut: Spur, Single and Double Helical (Farrel-Sykes Continuous Tooth Type)
Speed Reduction Units (Farrel-Sykes)

See PAPER AND PULP MILL CATALOG
or LOCKWOOD'S DIRECTORY — 1931

Farrel Two-Wheel Grinding Machines with swing rest and cam-type crowning device always produce an absolutely accurate and correct shape; noted for extreme accuracy, especially on long paper calender rolls. List of installations on request, with prices and specifications.

NEW RECORDS FOR PRODUCTION AND PRECISION ARE MADE ON FARREL-BIRMINGHAM MACHINES

EDGAR CLAYS

AMERICAN MADE FOR THE AMERICAN TRADE

H. T. BRAND
COATING CLAY
and
High Grade Filler Clay

Edgar Clays are the result of almost half a century of experience in Washing Clay. Technical Service available for both coating and loading without charge.

EDGAR BROS. CO.
50 Church St. New York

500 Tons Daily

We will be glad to send you samples—

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.32	@	.34
No. 1	.22	@	.24
No. 2	.21	@	.22
No. 3	.19	@	.20
A. Italian, 18 basis	.38	@	.39
Finished Jute—			
Dark 18 basis	.20½	@	.21
Light 18 basis	.22½	@	—
Jute Wrapping, 3-6 Ply—			
No. 1	.14¾	@	—
No. 2	.13¾	@	—
Tube Rope—			
4-ply and larger	.10¼	@	—
Fine Tube Rope—			
4-ply	.12¾	@	—
3-ply	.13¾	@	—
2-ply	.14¾	@	—
Paper Makers Twine Balls	.08¾	@	—
Box Twine, 2-3 ply	.09	@	.10
Jute Rope	.11	@	.12
Amer. Hemp, 6	.29	@	.31
Java Sisal			
No. 1 Basis	.12	@	—
No. 2 Basis	.11¾	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Twine	.22½	@	.24½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sul-			
Sulphite Bond	.06¾	@	.11
phite Bond	.09	@	.12
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06½
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.07	@	.07½
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
tings	—	@	—
No. 1 Soft Shavings	2.10	@	2.15
Ledger & Writings	.70	@	.75
Solid Books	.75	@	.80
Blanks	1.60	@	1.65
Krafts	1.30	@	1.40
New Kraft Cuts	1.40	@	1.50
Manila Env. Cuts	1.50	@	1.55
Ex. No. 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.28	@	.30
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03½	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03⅜	@	.04
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03½
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	32.50	@	35.00
Chip Board	30.00	@	32.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00	@	—
No. 2, per ton	70.00	@	—
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.09	@	.09½
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesias, soft	.05	@	.05½
New Unbleached	.08½	@	.09
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05	@	.05½
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	6.00	@	—
Thirds and Blues—			
Miscellaneous	1.60	@	1.80
Repacked	2.00	@	2.25
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.25	@	1.30
Repacked	.80	@	.90

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.15
No. 2 Books, light	.90	@	.95
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.35	@	1.40
Common Paper	.25	@	.35
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.50	@	.60
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag Content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.15
Manila, Sul. No. 1	.04¾	@	.06⅛
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¼	@	.05½
No. 2 Kraft	.03¾	@	.05
(Less car-freight to Boston)			
Southern Kraft	—	@	3.35
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print, rolls	61.50	@	—
Straw Board, rolls	.009	@	52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	32.50	@	—
Chip Board	30.00	@	—
Chip Board (Creasing)	32.50	@	—
Single Manila Lined Chip	45.00	@	—
Single White, Patent Coated News Board Bender, No. 1	60.00	@	75.00
Single White, Patent Coated News Board Bender, No. 2	55.00	@	65.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	67.50	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	—	@	2.40
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.65
Solid Ledger Stock	—	@	1.75
No. 1 Books, heavy	.75	@	.80
No. 1 Books, light	—	@	.65
Crumpled Stitchless Book Stock	—	@	.70
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Kraft No. 1	1.00	@	1.15
Manila	—	@	.80
No. 1 Mixed Paper	—	@	.16
Overissue News	—	@	.40
Old Newspapers	.25	@	.30
Box Board, Chip	.16	@	.20
Corrugated Boxes	.35	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.75
Domestic	—	@	1.55
Manila Rope—			
Foreign	2.60	@	—
Domestic	—	@	3.00
Transmission Rope	2.00	@	—
Mixed Strings	.75	@	.85
Jute Rope	—	@	1.05
Jute Carpet Threads	1.00	@	1.10
Bleachery Burlap	—	@	3.25
No. 1 Crap Burlap	—	@	1.25
Scrap Sisal	1.50	@	1.60
Scrap Sisal for shredding	—	@	1.75
Wool Tares, heavy	—	@	1.40
New Burlap Cutting	1.75	@	2.00
Australian Pouches	—	@	2.25
Heavy Baling Bagging	2.00	@	2.10
Paper Mill Bagging	.90	@	—
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.06½	@	.07
New White No. 2	—	@	.06
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.08
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	3.65	@	4.00
Roofing Stock—			
No. 1	.90	@	.95
No. 2	.65	@	.70
No. 3	.50	@	.60
No. 4	—	@	.60

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.60	@	.75
New No. 1 White Shirt Cuttings	7.50	@	8.00
Dutch Blues	—	@	1.80
Lace Curtains	4.00	@	4.25
New Checks & Blues	4.25	@	4.60
Old Fustians	1.65	@	1.65
Old Linsey Garments	.75	@	.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.09¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.09½	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	4.00	@	5.75
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 4 S. C. (carloads)	6.25	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	70.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock	1.20	@	—
Ledgers and Writings	—	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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PAPER TRADE JOURNAL

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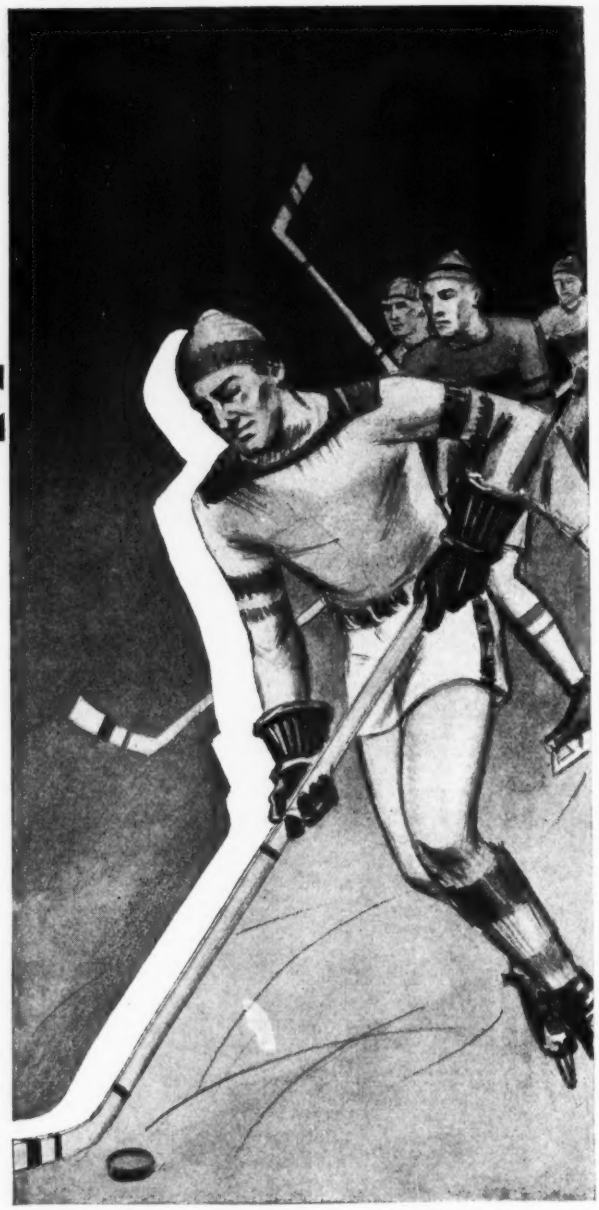
THE EXTRA ADVANTAGE



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